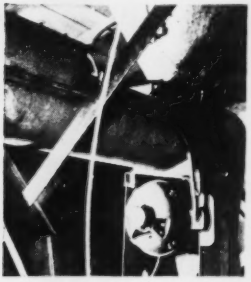
ENGINEERING NEWS-RECORD

MARCH 24, 1949

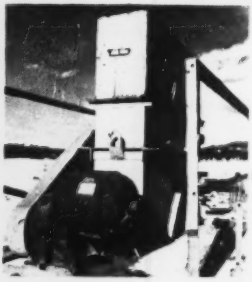
Herbert C. Hoover—He wants the government put on a business basis

A McGRAW-HILL PUBLICATION

automatic batching ...Electrically



Cement from silo is fed to weigh batcher by worm screw, driven by G-E Tri-Clad motor.

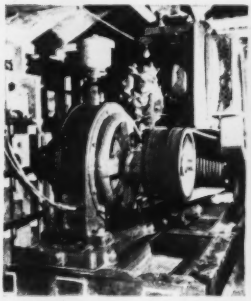


Cement elevator drive is powered by G-E Tri-Clad motor.

G-E Motors and Control Speed Concrete Placing at Granby

Granby pumping plant, operating heart of the Bureau of Reclamation's Colorado Big Thompson project, is now under construction at an accelerated pace. To help maintain this pace, Granby Constructors are utilizing electric drive wherever possible as on this Noble batch plant . . . relying on General Electric components almost entirely.

Construction equipment driven by G-E motors and control, supplied from G-E Power-distribution systems, will help you meet schedules . . . at a profit! Apparatus Dept., General Electric Co., Schenectady, N. Y.



G-E induction motor driving compressor which supplies air to batch plant and other equipment.

Bert Sandberg, Engineer for Granby Constructors, operates the G-E combination starter which controls the compressor motor.

Ask him Today!

Whether you buy or build construction equipment, your G-E representative can show you how to do a better job at lower cost by complete electrification. Call, wire or write him now!

Electrified Construction
BETTER PRODUCT
LOWER COST

GENERAL ELECTRIC

664-1

QUONSETS take on new value with

STRAN-STEEL Quon-Kote

NEW ONE-COAT PROTECTIVE FINISH MADE EXPRESSLY FOR QUONSETS

Another great feature has been added to Stran-Steel Quonsets!

It's Stran-Steel Quon-Kote, the new kind of paint—the only paint that can be applied directly to new galvanized metal surfaces. Now there's no need to wait for the steel covering to "weather" . . . no need for costly primer coats. One coat of Quon-Kote does the job.

Quon-Kote assures a better-looking building—a building you'll be proud to own. It provides your Quonset lasting protection.

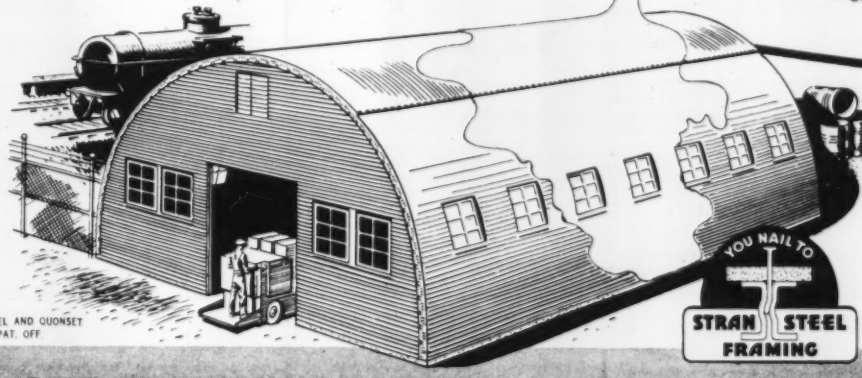
Quon-Kote is available in five colors—white, cream, red, green and gray—that offer a wide choice of pleasing color combinations.

Present Quonset owners can obtain inexpensive, easy-to-apply Quon-Kote from any Quonset dealer.

So get the facts about Quon-Kote from your Quonset dealer today, or write for his name and address.

Quon-Kote is a specially compounded linseed oil base paint which reacts chemically with the zinc on new galvanized surfaces to form a tightly bonded protective coat. Fifteen years of chemical research and exacting tests have developed this new idea in paint.

Quon-Kote is made exclusively for the Great Lakes Steel Corporation by The Sherwin-Williams Co.



STRAN-STEEL AND QUONSET
REG. U.S. PAT. OFF.

GREAT LAKES STEEL CORPORATION

Stran-Steel Division • Dept. 39 • Penobscot Building • Detroit 26, Michigan

UNIT OF NATIONAL STEEL CORPORATION

You asked for it!

RICHMOND'S
***NEW* CATALOG OF FORM TIES AND ACCESSORIES FOR CONCRETE CONSTRUCTION**

You want to be kept up-to-date about Richmond's complete line of form ties and accessories that have done so much to save time and money in concrete formwork. You want to know about the improvements Richmond has added to its standard items. And you certainly want to be informed about the dozens of brand new items that Richmond has been developing to simplify your job. That's why the new Richmond Catalog is for you. Make sure you get your free copy as soon as it's off the press by sending the coupon today!

RICHMOND
SCREW ANCHOR CO., INC.
838 Liberty Ave., Brooklyn 8, N. Y.

DO IT NOW!

RICHMOND SCREW ANCHOR CO., INC.
838 Liberty Avenue, Brooklyn 8, N.Y.
Gentlemen: Please rush me your new Richmond Catalog as soon as it's ready. No cost or obligation to me, of course.
NAME
ADDRESS
CITY STATE

ENGINEERING NEWS-RECORD

VOLUME 142 **MARCH 24, 1949** **NO. 12**

WALDO G. BOWMAN
Editor

DEPARTMENTS

The Construction Week	5	Elections and Activities	34
Editorials	7	Engineering Schools	36
Developments Abroad	22	New Products	38
Obituaries	27	Manufacturers Publications	41
Municipal Affairs	28	Construction Reports	42
Men and Jobs	30	Construction Business	64

THE COVER PICTURE

Herbert Clark Hoover, 30th President of the United States and the nation's only living ex-President, has now completed what he has said will be his last public task—a monumental survey of the operations of the U. S. government—for which the nation's thanks are due him.

Submission of his commission's 14th report—on reorganization of the government's construction activities—completed the assignment he started two years ago, and released him for his favorite pastime of fishing.

A native of West Branch, Iowa (1874), and one of the most famous sons of Stanford University, Palo Alto, Calif., Mr. Hoover engaged with spectacular success in mining engineering throughout the world until 1914, when he began what was to become a lifelong career of public service by becoming chairman of the American Relief Commission, in London. He later served as head of all U. S. relief to Europe after the first world war, as Secretary of Commerce, Chairman of the Colorado River Commission, and became President of the United States in 1929.

Since leaving the presidency in 1933, he has served on numerous other missions for the U. S. government.

Number of copies this issue 44,096

Managing Editor—Eugene E. Halmos, Jr.

Associate Editors—*New York*, V. T. Boughton (senior associate), F. S. Merritt, R. H. Dodds, J. C. Bumstead; *Cleveland*, J. R. Carr; *Chicago*, H. T. Pérez; *San Francisco*, N. A. Bowers; *Washington*, V. B. Smith

Assistant Editors—*New York*, T. D. MacGregor and Arthur J. Fox, Jr.; *San Francisco*, L. L. Wise

Contributing Editor—Edward J. Cleary

Business News—Elsie Eaves, *Manager*; J. A. Mahoney, Robert F. Westervelt, M. W. Roessler, M. Wetzel, E. M. Huber

Staff Assistants—Ethel Lyon, Louise Jacobson, Helen Chase, Elly Kirsten

Domestic News Bureau—Atlanta, Chicago, Cleveland, Detroit, Houston, Los Angeles, San Francisco, Washington. Correspondents in 71 cities in the United States, Canada and Mexico.

Foreign News Bureaus—London, Frankfurt, Paris, Moscow, Tokyo, Bombay, Melbourne, Rio de Janeiro, Buenos Aires. *Correspondents*—Athens, Rome, Caracas, Mexico City, Santiago, Shanghai, Zurich, Johannesburg and 40 other cities.

ROBERT F. BOGER
Publisher

Member ABC Member ABP

March 24, 1949 **ENGINEERING NEWS-RECORD** Vol. 142—No. 12

Publication Office—99-129 N. Broadway, Albany 1, N. Y.
Executive and Editorial Offices—330 West 42nd St., New York 18, N. Y.

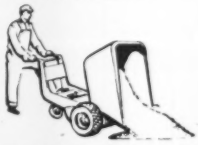
Copyright 1949 by McGraw-Hill Publishing Co., Inc. All rights reserved. Published every Thursday by the McGraw-Hill Publishing Co., Inc., James H. McGraw (1860-1948), founder; JAMES H. McGRAW, JR., President; CURTIS W. McGRAW, Senior Vice-President and Treasurer; JOSEPH A. GERARDI, Secretary; NELSON BOND, Director of Advertising; EUGENE DUFFIELD, Executive Assistant for Publications; J. E. BLACKBURN, JR., Director of Circulation. Cable Address, "McGraw-Hill New York."
Subscriptions: (1 yr., 2 yr., 3 yr.) U. S. and possessions, $6, $9, $12; Pan America, $10, $16, $20; Canada $7, $11, $14; All others, $20, $30, $40.

Address all communications about subscriptions to Director of Circulation. Price 35¢ per copy.

Please indicate position and company connection on all subscription orders.

Entered as Second Class matter October 29, 1936, at the Post Office at Albany, N. Y., under Act of March 3, 1879. Printed in U.S.A.

Bucket holds 10 cubic feet . . . 18 with sideboards



Mechanically dumped . . . operates by foot pedal

9-square-foot steel platform takes half-ton loads

Climbs 20% grades fully loaded

50-inch steel blade makes Prime Mover an efficient snow plow

FEATURES:

- gear driven . . . no belts or chains
- fully enclosed engine protected against dirt and moisture
- clutch, engine, transmission all run in oil
- switch from bucket to platform without tools . . . in less than a minute
- turns in its own length (63½"); width 31½"
- 3-gallon tankful of fuel gives 8 hours continuous service

A PRODUCT OF

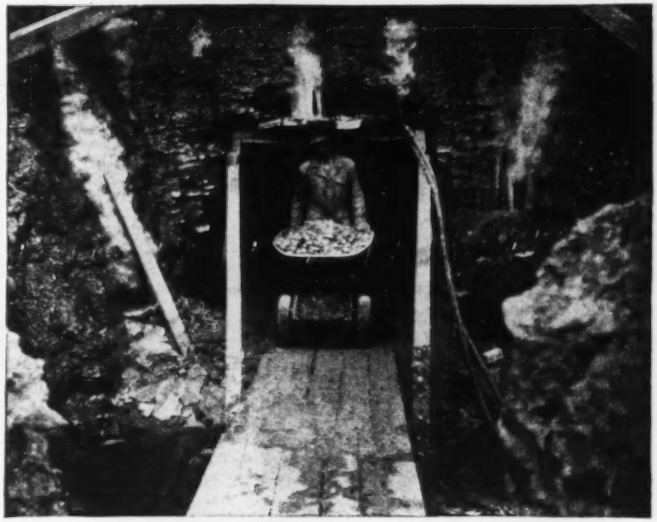
BELL *Aircraft* CORPORATION

*Patents & T. M. Reg. Pending Copyright, 1949

The BELL *Prime Mover*

- eliminated cars, track, and skip hoist on tunnel job at Wright Field

VEST & BARTELL, Cincinnati contractors have discovered that Prime Movers not only save time and manpower, but frequently substitute for costlier equipment. This was clearly demonstrated on a 4'x 5' rock tunnel beneath the gun range at Wright Field. Here Prime Movers functioned right in the tunnel itself . . . hauling broken rock out of the tunnel and up a steep ramp to the surface, and from there to a disposal dump several hundred feet away.



● Combining the features of a giant motorized wheelbarrow, a 9- or 14-square-foot platform truck, and a powerful snow plow, the Bell Prime Mover is an ingenious answer to the problem of cutting costs and reducing labor on construction projects.

With Prime Movers on the job . . . pouring concrete and doubling the productive capacity of wheelbarrow or "buggy" gangs . . . work can be expedited on almost any job. You can take some of the guesswork out of figuring labor costs, for Prime Mover savings provide a cushion against increased labor rates.

All of these facts can be proved conclusively by an on-the-job demonstration. *It took only half an hour at one of these demonstrations for a contractor to sideline six concrete buggies in favor of two Prime Movers on a 166-yard pour. Two men finished the job in 7½ hours.*

If you would like to see a Prime Mover . . . or a "fleet" of them in action, we'll gladly make the arrangements. For more information, please attach this coupon to your letterhead and mail it to us at once.

SEND COUPON NOW

Bell Aircraft Corporation
P. O. Box 1E3, Buffalo 5, N. Y.

Please send me facts on the Bell Prime Mover. Who is the nearest distributor?

Name.....

Address.....

Company.....

City, Zone & State.....

"Our operations cut tires to pieces in 2 weeks —until we changed to U. S. ROYALS"

says Irving Shapiro, President, Ashland Iron and Steel Co., Chicago, Illinois

"THEY'RE THE ONLY TIRES THAT CAN TAKE THIS SCRAP METAL"

"None of our tires ever wear out—they just get cut to pieces by the scrap metal lying around the yards where we pick up and deliver. We have U. S. Royal Fleet Deliveries on our trucks now and they last longer than any we've ever had. They're saving us a lot of money."

U. S. ROYAL FLEET DELIVERY (Off-the-Road Type). Here's a big, husky tire especially designed for tough jobs:

- **Extra tread depth means longer wear.**
- **Husky shoulder design gives added protection against scuffing and snagging.**
- **Tread rubber is specially compounded to resist cuts.**

U. S. FLEET SERVICE. Your U. S. Royal Distributor is ready to draw up a tailor-made preventive tire maintenance plan designed especially for your operation—a plan which can give you lower cost per tire mile! He'll give you service where it counts—on your job! Call your U. S. Royal Distributor today. He's listed in your Classified Telephone Directory.

The finest tires you can buy are

U. S. ROYALS *by* U. S. RUBBER

U.S. ROYAL TIRES

THE CONSTRUCTION WEEK

LABOR LAW FOR CONSTRUCTION—Any new labor law should contain certain provisions to unscramble the thoroughly scrambled present position of the construction industry and its workers, the Associated General Contractors told Congressmen in a letter last week. AGC wants a five-point program made clear in any new law: (1) Better means of stopping juridictional strikes; (2) better legal means of preventing secondary boycotts; (3) a requirement for adequate notice to all parties before termination or modification of an agreement, and a prohibition against strikes or lockouts during the period the changes are under discussion; (4) a provision making it unnecessary for an employer to bargain with a union over employment of genuine supervisory help; (5) careful study of any federal measure to insure there'll be no conflict with state laws. AGC pointed with pride to the National Joint Board for Settlement of Jurisdictional Disputes, and to the almost complete lack of serious work stoppages since that board began to function a year ago.

IN THE SPRING—With the turn of the season, civic association fancies turn to roadbuilding. In Florida, the East Coast Highway Association urged the state to start work at once on a proposed four-lane toll-free road from Jacksonville to Miami. At Edgewater Park, Miss., an organization meeting of the eight-state Atlantic, Gulf and Pacific Four-Lane Highway Association pushed for construction of a road from Jacksonville to Los Angeles, via San Diego.

SPENDING FOR TITANIUM—The Kennecott Copper Co. is prepared to spend $25,000,000 "as a starter" in exploiting deposits of titanium near Havre St. Pierre, Quebec, Premier Maurice Duplessis revealed recently. Expenditures will include a $15,000,000 refinery at Sorel, and a wharf and other works at Havre St. Pierre.

MONEY ON THE LEVEE—Refusal of Illinois Gov. Adlai Stevenson to recommend a $4,000,000 state expenditure has forced officials of East St. Louis and other river towns to turn to municipalities, railroads and other private sources for funds to build a $16,000,000 project including a levee, intercepting canal and other flood control works for protection of bottom lands in St. Clair and Madison counties. The new Illinois chief executive told Mayor John T. Connors of East St. Louis that he would recommend a $500,000 state fund for planning, but urged local citizens to see what they could do about raising the money locally before asking more from the state.

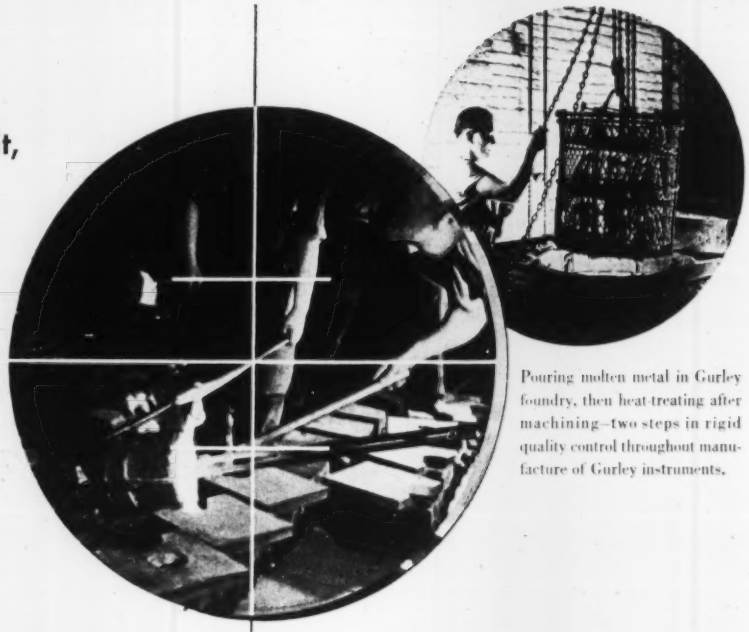
DEATH FROM WELLS—Public officials who had thought they could rest on their laurels in the matter of education on the dangers of untreated well water found last week they couldn't rest comfortably—yet. The Minnesota Department of Health bulletin reported 12 infant deaths and 130 infant illnesses in the southwestern part of the state—all traceable to water from shallow wells (15 to 40 ft. deep), all located within 50 ft. of sources of pollution.

CAN'T DO THAT—Tennessee's announced intention of cancelling $12,400,000 worth of federal aid highway contracts let under a previous state administration, last week reportedly drew a sharp rebuke from the Public Roads Administration. Though neither Gov. Browning nor Highway Commissioner Eggleston would comment, it was reported that PRA had informed the state officials that it considered the contracts "firm" and that an investigation had failed to show any fraud in the lettings. Observers at Nashville thought the PRA note carried the implication that any balking on the part of state officers might bring discontinuance of federal aid to the state.

ANTI-CORROSION CHROMATE — Full-scale tests on sodium bichromate as an anti-corrosion admixture in ice-control salts, being conducted this winter in widely separated states, may prove a boon to the motorist. Pilot studies conducted in Akron, Ohio last winter indicated that the addition of two-percent (by weight) of sodium bichromate to sodium chloride and calcium chloride used for ice control inhibits the formation of flaking rust on the underside of automobile bodies and fenders subjected to the salt spray. During this past winter, one chemical company alone has shipped 127 tons of sodium bichromate to such cities as Montpelier, Vt., Helena, Mont., Concord, N. H., and Portland, Conn., where similar tests are underway.

GARBAGE GRINDER SWING—Indiana is awaiting final action on a bill that would permit municipalities to go into the garbage grinder business. The measure allows local governmental units to issue revenue bonds for financing, and then install home grinders in citizens' sinks, servicing them on a rental basis.

While you're looking through a transit, take a look at what's behind it



Pouring molten metal in Gurley foundry, then heat-treating after machining—two steps in rigid quality control throughout manufacture of Gurley instruments.

Be sure it's durable—but lightweight, too!

Gurley transits are rugged. They won't distort with age. Parts are heat-treated, hardened and tempered as required. Special bearing metals are cast integral with structural parts and can never shake loose.

Gurley transits are lightweight, too. That's because they are principally aluminum—anodized and dyed to prevent corrosion and tarnishing.

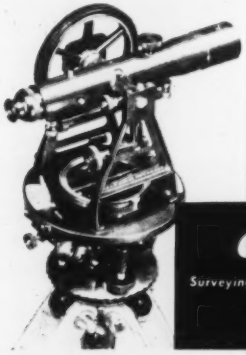
Result: Each Gurley is a transit you'll feel good carrying through every difficult assignment...for many years to come.

Yes, take a good look at what's behind the transit that you buy. In a Gurley you get the product of over 100 years concentration on engineering instrument manufacture—every part precision-made in the Gurley plant under supervision of field-experienced engineers. You'll find large objective lenses that reach the theoretical limit of optical power; sensitive, reversion-type level vials; accurate graduations on forged, non-tarnishing limbs; integral axles and telescopes mounted in multi-groove axis bearings; exclusive Gurley glass reticles; and many other field-tested features.

No wonder it's backed by an unqualified guarantee! Write for Bulletin 50.

W. & L. E. GURLEY, UNION PLAZA, TROY, NEW YORK

Surveying & Engineering Instruments, Hydraulic Engineering Instruments, Standard Precision Weights & Measures, Paper & Textile Testing Instruments, Aeronautical Navigating Instruments, Meteorological Instruments, Reticle Making Facilities.



GURLEY

Surveying and Scientific Instrument Makers Since 1845

River Development—A Challenge for Congress

NONE OF THE THREE TRYS to formulate a better federal setup for handling public works—by the Hoover Commission itself and by its two advisory committees or task forces—has produced a solution that Congress is likely to buy. Not only are some of the recommendations politically unrealistic, but they lack the logic and rationality that the commission so generally showed in its monumental study of government reorganization.

The reason for this failure seems to rest in the fact that the question of the civil works functions of the Army Engineers relative to river development was never frankly and fairly faced. Instead, preconceived ideas and petty prejudices were allowed to rule out anything but an emotional approach, with the resulting recommendation that civil works be taken away from the Army. Even the minority report, which opposed any tampering with the Corps of Engineers functions, was basically emotional. Instead of a punitive attitude, it merely adopted a theme of procrastination.

Yet something must be done to rationalize the dual handling of river development by the Corps of Engineers and the Bureau of Reclamation. Much of it makes no sense, and all of it invites confusion and inefficiency. Even though Congress refuses to act on the Hoover Commission recommendations, which is likely, the report is a challenge to Congress to produce something better.

A START might be made by an unemotional evaluation of the practice of assigning civil works functions to the Corps of Engineers. The only excuse for such assignment, other than historical precedent, is that it provides construction and administrative training for the officers that makes them better able to cope with their responsibilities as military engineers. Has this worked out?

The numerous engineer officers who rose to positions of top responsibility in the last war—Clay, Somervell, Lee, Wheeler, Pick, Casey, Hoge, Crawford, Groves, Larkin, Plank, Shingler, to mention a few—supply one answer. Another is available in the effectiveness with which the Corps of Engineers organization administered the vast defense building program in this country and then handled army war-front tasks overseas. The Hoover Commission's statement that only 200 officers are assigned to civil works is misleading since all of the 1,500 officers are a part of this 200 sometime during their career.

It is also a fact worth noting that the district and division setup of the Corps of Engineers is a great asset in quickly marshalling the construction forces of the nation to deal with emergencies. Floods and blizzards have furnished examples in the past, but a surprise air attack by an enemy might pose even more compelling problems in the future. No civilian organization could be mobilized quickly enough nor clothed with sufficient authority to cope with such situations. And no military organization, which was not in itself a part of the construction industry, knew its methods of operation and had its confidence, would be any more useful.

THESE CONSIDERATIONS, if they are found to have merit, would justify finding some place in a public works setup for the Corps of Engineers. The Hoover Commission says that this setup should be in the Department of the Interior. Certainly the Bureau of Reclamation has a research, engineering and construction organization that is the equal of the Army Engineers in many ways and superior in some. It would be an effective nucleus around which to fashion a public works department. One cannot be so optimistic, however, about the policy-making level of the Interior Department itself, which in the recent past has shown itself too much concerned with political hay-making and nationalization of American free enterprise to be entrusted, without some check, with the concentration of power that would reside in a department that recommended and supervised all federal construction.

A partial check is provided by the "board of impartial analysis" that the Hoover Commission would set up in the President's office, but the restraint appears inadequate. A better plan would appear to be to give that board or a similar board reporting to Congress responsibility for integrated development of the nation's water resources, not just the power to approve or reject projects proposed by the Army or the Interior Department. Then, when projects proposed by the board had been approved by Congress, design and construction could be assigned to the Army Engineers or the Bureau of Reclamation by the board, depending on the character of the work, its location, and the amount of work each agency had in hand at the time. Preliminary studies of projects, under study by the board, could be handled on a similar assignment basis.

SUCH A PLAN would eliminate the present overlapping and conflict between the two agencies in certain regions. Also, there would be no compelling reason for transferring the civil works of the Corps of Engineers to the Department of the Interior. It could continue to function independently as at present.

Congress should not file and forget the Hoover Commission report on public works. It should improve it and make it workable.

When You Need Suction Hose

You Really Need It!

Because suction hose is not used constantly on most construction jobs, many people figure that the cheapest kind of suction hose is good enough.

But we don't figure that way. We know that suction hose not only must take on-the-job punishment, but also the heavy abuse entailed in moving it from one job to another.

That's why you can be sure of "U. S." hose —from the large, heavy sand suction and discharge hose used in dredging operations right down to the everyday lightweight suction hose. Available at your equipment distributor or the nearest branch of United States Rubber Company.

U. S. GIANT SAND SUCTION HOSE.
Toughest abrasion-resistant tube. Powerful fabric and wire reinforcement. Sun and wear resistant cover. Smooth bore. Sizes 4" I. D. and up.

U. S. PEERLESS SUCTION HOSE.
For building construction and trench work. Maximum flexibility without danger of collapse. Smooth bore. 2" to 12" I.D.

U. S. RAINBOW SUCTION HOSE.
Lightweight hose for diaphragm pumps used in sewer and foundation operations. Rough bore. 1½" to 6" I. D. inclusive.

U. S. GIANT CONTRACTORS WATER SUCTION.
Smooth bore, wire-woven carcass, abrasive-resistant cover. Unusually light weight. Easily reshaped if crushed or flattened. 1½" to 4" I. D. Can be used for suction or high pressure discharge service.

U. S. ENGINEERED RUBBER PRODUCTS FOR THE CONTRACTOR

Air, Water, Steam, Suction Hose • Belts • Packings • Tape

Hydron Absorptive Form Linings
Re-usable Rubber Form Strips

MADE BY U.S.RUBBER SERVING THROUGH SCIENCE
UNITED STATES RUBBER COMPANY

ENGINEERING NEWS-RECORD

MARCH 24, 1949 VOL. 142 NO. 12

Hoover group seeks central U. S. construction agency

Commission report urges consolidating all construction activities under Interior Department—"Task force" reports differ from program adopted by parent group

In the Interior Department report that it sent last week to Congress, the Hoover Commission proposed reorganizing the department to pull together all the federal government's activities in development of water and mineral resources. To the same department, the report recommended adding the non-military construction functions that are administered directly by the government—public buildings, hospitals and federally-owned airports—excluding all grant-in-aid programs.

Fundamental to the whole reorganization scheme is one controversial proposal—that the river development functions of the Army engineers be transferred to the Interior Department. The civil works of the Corps of Engineers—for flood control and navigation—would be grouped in a water development and use service with the Bureau of Reclamation and three power agencies: the Bonneville and Southwestern power administrations and Interior's present power division.

Congress controls reorganization

Nothing can be done about any of the Hoover Commission's major recommendations until Congress passes a law authorizing the President to present reorganization plans. Any proposal of his would then have to undergo congressional review; Congress would retain power to veto the President's recommendations. This fact could block any real reorganization. Staunch friends of the Corps of Engineers in Congress, for example, are adamant in their purpose to enact a reorganization law that will make it practically impossible to effect transfer of Army civil functions to any other agency (ENR Feb. 17, p. 45, and March 17, p. 69).

The basic concept of the commission's report on the Interior Department is succinctly stated in the first paragraph: "We propose that the Department of the Interior be given more clearly the mission of development of subsoil and water resources. As these activities require large public works, we recommend that other major public works also be managed by this department."

A different opinion was expressed in a cogent minority report by three of the twelve commissioners. These men adopted pretty broadly the viewpoint of the commission's task force on natural resources. The minority report recommends changing the name of Interior to the Department of Natural Resources—a single-purpose agency to unify management of mineral, water and public land resources.

Land management functions—for both forest and range lands—have been recommended by the Hoover Commission for assignment to the Department of Agriculture. The minority report on Interior argues strongly against this separation of public land management from water and mineral resources. As the only alternative to this division of responsibilities on the national level, the minority foresees soon the inevitable creation of several new regional authorities.

It is neither feasible nor desirable, the minority avers, to blanket the country with regional authorities. But the three-man report sees as practicable a combination of the two means of attaining unified resources development —a single-purpose federal department and regional authorities such as TVA in some river basins.

Dissention on Army shift

As in the majority report, the minority would combine Army river development functions with reclamation and power activities in the reconstituted department. Not all the commissioners agreed with the proposal to transfer Army civil works. Two of the members who signed the majority report wrote a trenchant dissent spe-

(*Continued on p. 16*)

Council states '49 construction policy

Over 100 trade and professional groups were represented recently when the Construction Industry Advisory Council met under U. S. Chamber of Commerce auspices in Washington, D. C., and presented its statement of policy for 1949.

Prepared by a committee under William Muirhead—former AGC president and head of Muirhead Construction Co., Durham, N. C.—the policy statement urged an improved productive capacity based on fulfillment, without controls, of the construction demands of a free market.

Special mention was given to the newly formed Building Research Advisory Board in the advisory council statement. Calling the board one of the most important single steps ever taken to coordinate and advance the technology of building construction, the committee recommended that all branches of the industry cooperate in making this undertaking a success.

Recommendation was made that better understanding be realized between professional and trade organizations in the construction field and those government agencies responsible for planning for national defense.

Training in all phases of construction was singled out as a problem showing progress, but as yet unsolved. Intensified propaganda campaigns to interest young candidates for construction work and furtherance of apprenticeship programs were urged by the policy committee.

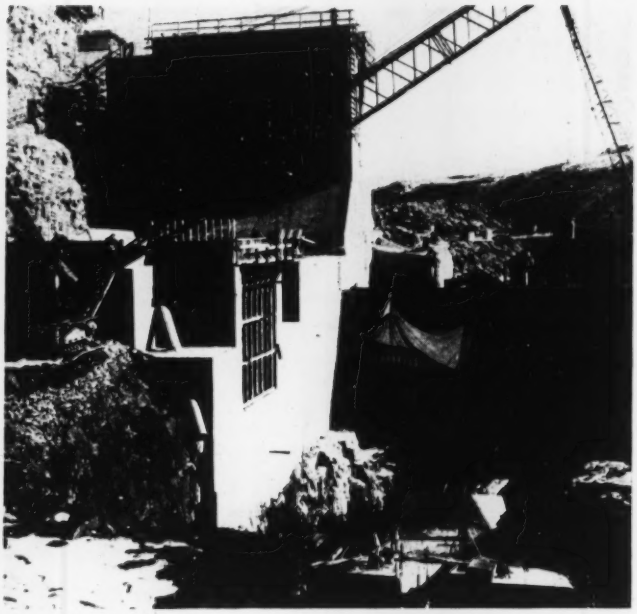
Reference was made by the committee to a recent McGraw-Hill survey of industry's planned investments for plant and equipment. It was pointed out that the survey indicated that a method of accelerated depreciation would stimulate new construction investment (ENR Mar. 17, p. 187). A recommendation was made that Congress consider legislation permitting more rapid depreciation of building construction.

NEWS BRIEFS

Water and Sewers—Two large sewer projects are planned in western Washington, with a local improvement district being formed in SEATTLE for construction of lateral and interceptor sewers estimated to cost $1,564,000, and the Navy Department including a $600,000 item in its budget for improvement of the sewage disposal system in the BREMERTON NAVY YARD . . . The most pressing needs of SARASOTA, FLA., according to Mayor J. F. Robertson, are an increased water distribution system and an enlarged sewer system, including a disposal plant . . . Unless additional funds for treatment are supplied, the CHICAGO Sanitary District says it will be forced to throw untreated sewage into the Illinois River after Sept. 1 . . . A Chamber of Commerce committee at WILMINGTON, DEL., reports that the proposed sewage disposal plant there will cost $8,500,000 . . . New sewer construction in EDMONTON, ALTA., this year will cost an estimated minimum of $1,300,000, engineers say.

Highways—Proposal to boost the gasoline tax in INDIANA from 4 to 5 cents a gallon was killed in the Senate—A movement to raise the gasoline tax in NORTH DAKOTA was likewise defeated . . . Bauer-Smith Dredging Co. has the contract at $1,248,607 for construction of the Laguna Madre Causeway at CORPUS CHRISTI, TEX. . . . FLORIDA State Road Department has adopted a construction and maintenance program of $44,588,807. DUVAL COUNTY is seeking approval of a $33,000,000 bridge and road plan to create a superhighway . . . ARKANSAS legislature has passed bills to take care of a highway maintenance and construction program expected to amount to about $30,000,000 annually in the next two years.

Railroads – Missouri Pacific Lines have been authorized by a U. S. District Court to expend $13,147,000 on tracks, grades, buildings and signals in 1949. . . . DeLeuw, Cather & Co., Chicago, is to make a plan to revamp the railroad facilities of LOUISVILLE, KY., to eliminate as many grade crossings as possible. . . . The ALASKA Railroad, faced with rehabilitation of its PORTAGE-SEWARD section at an estimated cost of $12,000,000, is studying the possibility of a new terminal at SHOTGUN COVE, five miles east of WHITTIER. The Corps of Engineers has assigned Fay, Spofford & Thorndike, consulting engineers, to make an economic and geographical survey of the cove and the proposed rail line. . . . The Nickel Plate Railroad will spend $2,000,000 in FORT WAYNE, IND., for relocation and expansion of terminal and yard facilities. Construction is to start May 1, with completion planned for August, 1950.



SNAKE RIVER POWER—Bliss Dam and powerhouse, newest and largest Idaho Power Co. installation put under construction by Morrison-Knudsen, show progress despite winter weather. Structure has reached full 138-ft. height at left, while construction of the power installation begins at lower right. The total cost will be $11,500,000 and the plant will have an initial output of 70,000 kw.

Utilities – Florida Power & Light Co. will spend $29,188,000 on new construction this year, of which $14,000,000 will be for expansion of generating capacity. . . . The Gatineau Power Co. will spend $8,000,000 for power facilities in the Province of QUEBEC before the end of 1950.

Commercial Buildings – Construction has begun at SEATTLE, WASH., on a $3,000,000 department store, first unit of a $12,000,000 shopping center in the Northgate district. Howard S. Wright & Co. is general contractor. . . . A $2,000,000, six-story extension is being made to the Hudson's Bay Co. department store in VANCOUVER, B. C.; Commonwealth Construction Co. is general contractor. . . . The First National Bank of AMARILLO, TEX., has started erection of a $2,500,000 building, ten stories high. . . . Excavation work for NEW YORK'S newest skyscraper, the 36-story fully air-conditioned office building under construction at 100 Park Ave., has been completed and first steel columns and beams are being erected, it was announced by George A. Fuller Co., general contractor. . . . Work has started at DALLAS, TEX., on the $1,650,000 Mercantile Commerce Building for the Mercantile Bank. It will be 7 stories high and will have four stories underground for the parking of 1,250 cars. . . . Stevenson, Cawston & Stevenson, Calgary, Alta., have let a contract to the Larwell Construction Co. for erection of a theater and office building for the Grand Theater of CALGARY, estimated to cost $1,125,000.

Hospitals—Canadian government has awarded to Richard and B. A. Ryan Ltd. of Montreal a contract of about $1,000,000 for additions to Lancaster Hospital, BEACONSFIELD, N. B. . . . Massachusetts will build a 600-bed hospital for chronic patients at MATTAPAN to cost $12,000,000 . . . Governor Lane of MARYLAND has recommended a $20,000,000 capital outlay from surplus funds for construction at the five mental hospitals in that state.

Midwest highway officials told need of state-local government liaison

Mississippi Valley highway group also hears discussions of advantages of long-range planning, aerial mapping of rights of way

The greatest problem currently affecting highway development is the lack of state laws to provide a sound administrative relationship between states and their local governmental subdivisions, Public Roads Commissioner Thomas H. MacDonald said last week.

Addressing the annual meeting of the Mississippi Valley of State Highway Departments in Chicago, MacDonald warned that there is too fine a line drawn between areas of jurisdiction, and that there must be more cooperation between local agencies to reduce inefficiency.

Greater demand for more and better secondary or feeder roads is focusing increased attention on county road administrations, the commissioner stated, and an inventory of such units is being undertaken to implement the concept of one state-wide highway transportation system. The end result sought is a plan that retains local autonomy but which effects economies through logical cooperative arrangements. This will require less capital investment for equipment and shops, simplify purchase of materials and provide better management and engineering talent at less expense to all agencies.

Other needs mentioned by MacDonald were adequate, economical, standards for secondary-road bridges and broader legislative authority to secure adequate rights-of-way.

Stress planning

A. N. Carter, manager of the highway division of the Associated General Contractors of America, told the group that long-range planning is essential for a successful and economical highway program. Such planning would help to: ease financing and land acquisition problems; attract needed engineering personnel; give contractors and materials suppliers a sounder basis on which to schedule investment in new equipment and plant.

Urging prompter payments to the contractors, Carter recommended serious consideration of some contractual provisions similar to that newly prepared by the Rural Electrification Administration. A clause in REA contracts now calls for interest payments —after a specified time—on the unpaid balance of a contractor's monthly estimates and final invoice.

On more technical subjects the conference heard two Purdue University professors—Robert E. Frost and K. B. Woods. Prof. Frost detailed the advantages of vertical aerial photographs in highway construction (particularly for soils surveys and for roadbuilding-materials prospecting) and low-altitude continuous strip pictures for maintenance operations and traffic counts.

Aggregate testing

Prof. Woods reported that available information pointed to the inadequacy of present standard tests to determine the soundness of aggregates. The surest procedure for coarse aggregate consists of incorporating the material in a vacuum-saturated condition in concrete beams, then putting them through freeze-thaw cycles. The unsoundness problem definitely appears to be related to pore-space and moisture absorption characteristics, he said, and long-time stock piling or mechanical drying may have to be resorted to. Another conclusion was that air entrainment for paving concrete seems to help improve the durability of poor aggregates.

At the concluding session Carl E. Vogelgesang, Indiana's engineer of special assignment, was elected president for 1949. H. E. Surman, Illinois' engineer of design, was elected secretary-treasurer.

B. C. to provide $5 million for Trans-Canada highway

The British Columbia government has allocated $5,000,000 as the province's share in building the Trans-Canada Highway (ENR Feb. 17, p. 47).

This was disclosed by Finance Minister Herbert Anscomb in the B. C. Legislature, in clarifying details of the provincial government's $90,000,000 capital works program announced recently (ENR Mar. 10, p. 24).

The province will provide, through borrowing and other financing, $78,750,000, the remainder being made up from money provided by the dominion government, school districts and local hospital authorities for their various undertakings.

Biggest single feature in the borrowing program is $35,000,000 for roads and bridges to be spent over the next three years. This includes $25,000,000 for general road projects, $5,000,000 for the Trans-Canada Highway and $5,000,000 earmarked for bridges.

A BIGGER BIG DIPPER—Here is a 55-cu.yd. dipper which will out-scoop anything in the Ohio strip-mining areas. Lukenweld, machinery making division of Lukens Steel Co., Coatesville, Pa., fabricated the shovel of welded steel plates from one to three inches thick. Only recently Marion Power Shovel Co. introduced a 45-cu.yd. dipper (ENR Feb. 24, p. 13)

Survey shows 1949 home construction likely to match 1948 near-record rate

ENR check on industry indicates builders turning to smaller, cheaper units—Demand holds strong in $6,500-$10,000 class

Homebuilding prospects—in 10 major cities surveyed by ENGINEERING NEWS-RECORD last week—are better than have been expected.

Where economists generally have expected homebuilding in 1949 to fall off perhaps 10 percent from 1948, ENGINEERING NEWS-RECORD'S survey shows there is a good chance that builders will about match last year's performance.

The change in the prospect is based on these major findings from the survey:

1. Builders are shifting to lower-price homes. About half of the speculative builders surveyed by ENR are shifting to houses that will sell for at least $2,000 less than those they built last year.

2. Builders expect to give home-buyers better value for their money this year. This conclusion is supported by the series of recent price cuts noted generally throughout the nation.

3. The builders surveyed—including some of the largest speculative builders in the country—as a whole now plan to build about as many houses in 1949 as they did in 1948.

A small minority have switched from building houses or do not yet have firm plans for the season. But on the other hand, some builders are planning to step up their activity sharply.

ENGINEERING NEWS-RECORD'S correspondents, in cooperation with BUSINESS WEEK, another McGraw-Hill publication, surveyed builders. At the same time they checked the real estate situation in their area. They reported on vacancies and prices of new and old homes and sounded the opinions of leading real estate people, bankers, and housing authorities. Their conclusions indicate that the market is by no means unfavorable.

The real estate survey showed:

1. Real estate is definitely in a buyers' market. The backlog of demand for higher-priced homes in most areas has been pretty well worked off. The extreme postwar shortage of housing is gone almost everywhere.

2. Demand for houses in the $6,500 to $10,000 class, however, is still strong in at least eight out of ten of the cities surveyed. Demand for houses in the $6,000 price range is very strong, but most builders indicate that their costs were still too high to enable them to reach that market.

3. The number of vacancies is still far short of the 1940 average. People don't have the choice of homes or the freedom to move that they had before the war.

4. There is still a major shortage of rental units. Vacancies in units with controlled rents are far fewer than in uncontrolled units, indicating that people who do have controlled rents have to pay a substantial premium to move into new construction.

5. Prices of older homes, houses that have been occupied at some time, are falling generally. The largest drop reported was 20 percent, the average about 10 percent. That still leaves prices of older houses farther above their prewar level than are new houses, however. Their prices have increased more than have construction costs.

Outstanding in the survey of builders is the shift to lower-cost housing. Many builders, for example, are shifting from $10-$12,000 homes to $7-$9,000 homes. Builders now in the lower-price ranges expect to give better values at the same price.

Builders expect lower material prices—particularly on lumber—and better supplies of material and labor to make a marked difference in costs this year. Beyond that, in the long run, they look to four possibilities for reducing costs. By reducing the size of the house and improving designs, builders themselves can make economies. Better cooperation from labor would be a major factor, more than half of the builders report. Finally, as a majority of the builders surveyed emphasized, costly restrictions, particularly in building codes, must be changed to meet the demand for lower-cost homes.

Chief obstacle to homebuilding this year, builders' comments showed, is likely to be financing. Prospective buyers have difficulty meeting requirements of high down payments and high interest rates set by mortgage agencies. Banks, too, are apparently unwilling in many cases to make loans on small houses because the risks, they feel, are greater.

Here is the city-by-city situation in real estate, as it was reported by ENGINEERING NEWS-RECORD correspondents:

Los Angeles—Builders in Los Angeles county can look forward to a good year in 1949. But 1950 prospects are bleak. Last year 90,000 new dwellings were put up in Los Angeles county, almost 10 percent of the total for the nation. The supply of vacant homes increased from 3,000 to 10,000 during the year. But the vacancy rate is still low (0.67 percent); 50,000 homes are needed to bring vacancy rate to 1940 level. Some 27,000 new homes are needed to take care of normal annual population growth. The market for $7,000-$8,000 homes is still strong and will remain so for most of 1949. But the clear prospect is that housing demand will drop sharply in 1950.

HITCH-HIKING KOOCHICHING BRIDGE—Koochiching County, Minn., could not resist the bargain price on this 75-ft., 26-ton steel truss structure. It was bought from the state and a house mover toted it 25 miles to its new site. The trip took only three hours. (Wide World Photo).

Cincinnati—Still a need for homes costing $8,000 or less. Practically no new homes in that bracket unsold, though some higher priced ones are vacant.

Atlanta—Strong demand for homes in the $7,000 and under class. Very few new homes vacant. One real estate broker says thousands of $6,500 homes could be sold.

Denver—Vacancy rate last September was 0.5 percent as against 2 percent prewar. Last year 3,271 new homes built while the number of families increased 3,375. So more housing is needed than was provided in 1948. Brokers report that the market for $10,000 and over houses is back to normal, but demand is strong for houses selling for less than $10,000.

Baltimore—About a thousand new houses are standing vacant. Most of them are in the $6,000 to $12,000 price classes. There is a big market for houses selling for less than $6,000, but builders say they can't build at that price.

Seattle—Over a thousand new houses, chiefly in the $7,000 to $12,000 brackets, are vacant. Brokers believe there is a good market for homes costing less than $6,000, but say that market is "unexplored."

Chicago—Still a big market for low-priced homes—one broker says 10,000 are needed now. But high priced ones—$15,000 and over—are moving slowly.

Boston—Almost 400 new houses are standing vacant; that's at least half again as many as a year ago. Most of them are priced at $10,000 or more; only a handful of $8,000 or under houses remain unsold. Brokers agree that the market for high-priced homes has been saturated. They believe that the market is still good in price classes below $10,000.

St. Louis—Real estate is definitely in a buyers' market. High priced homes are moving slowly. However, there is still a good demand for homes selling for $10,000 or less. Brokers and builders believe that more units will go up in 1949 than in 1948. The Lustron Corporation has allocated 60 of its prefabricated homes a month to the St. Louis area; that's around 10 percent of the total number of units built last year.

Gen. Fleming says shelf of public works is bare

Despite a tremendous accumulated need for public works, the reserve shelf of such products is pitifully bare. Measured against requirements estimated as high as $100 billion for state and local projects alone, excluding those of the federal government, the present $4.5 billion total backlog of construction projects for which blueprints have been completed is entirely inadequate. So Maj. Gen. Philip B. Fleming, Public Works Agency administrator, told the Chicago Building Congress at its recent annual meeting.

Projects on the reserve shelf are only 10 percent less than the predicted $5 billion for public works construction in 1949, Gen. Fleming said, and the gap can readily be closed. But should the volume of private construction slump, these projects would be far from sufficient to stabilize the construction cycle and bolster the business cycle. Only when blueprints are complete and ready can public works be considered a true bulwark. In addition, the need for new facilities is so great that careful advance planning is necessary for the wise selection and orderly flow of public construction.

To build up an adequate reserve of public works, Gen. Fleming recommended immediate reinstitution of the advanced planning program (administered by FWA's bureau of community facilities, the program advanced funds to states and municipalities for specific project planning and design, it ended June 30, 1947). Congress is at present considering legislation to enable FWA—through its Public Buildings Administration—to purchase sites and draw blueprints for future federal buildings. However, the $40,000,000 proposed would provide plans for a construction volume of little more than 10 times this figure. The scheme is a step in the right direction but larger and more-inclusive measures are needed.

Low bid is $15.2 million on Garrison Dam tunnels

S. A. Healy Co., of Chicago, recently entered a $15,218,000 low bid on tunnel work at Garrison Dam—a Corps of Engineers project.

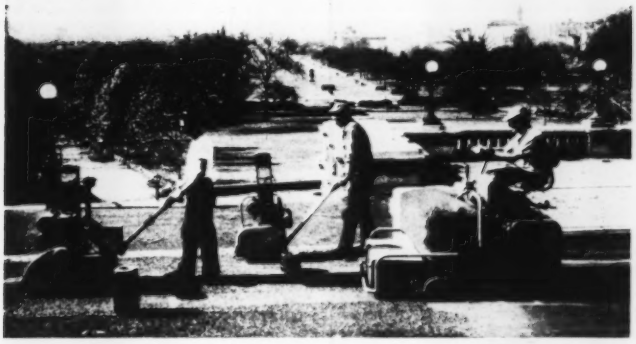
This proposal was over $1,200,000 above the Corps of Engineers' estimate. Second low bidder was Dakota Tunnel Constructors, a combine formed by Peter Kiewit Sons, Morrison-Knudsen, Brown & Root and Wunderich Contracting Co., of Jefferson City, Mo.

Eight tunnels totalling about 1,200 ft. in length and varving from 28 to 35 ft. in diameter will be constructed.

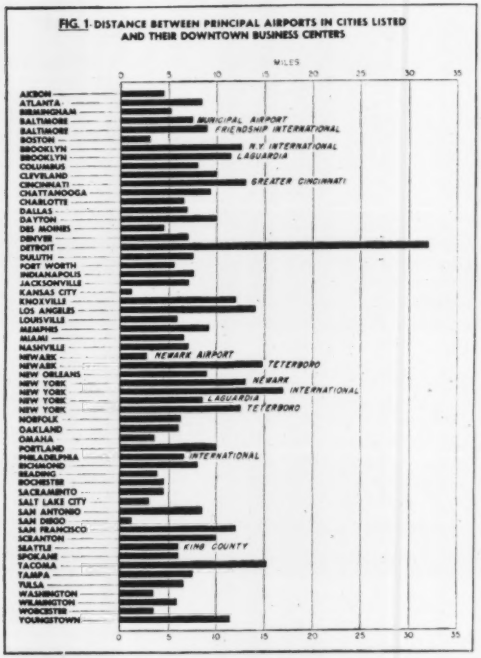
Army Estimates $50 million for deepening Columbia R.

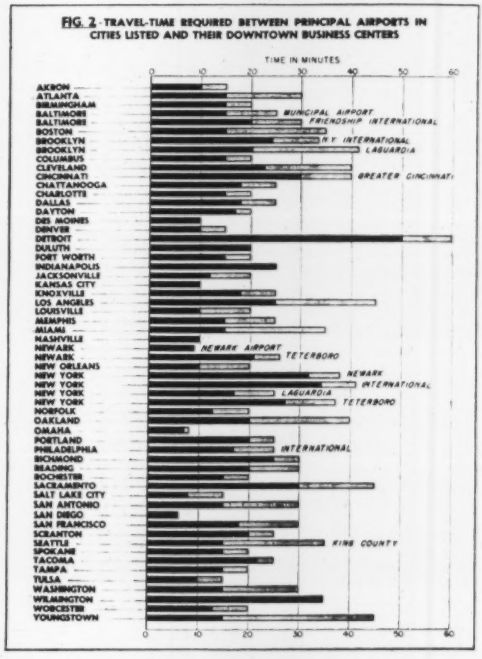
Cost of deepening the Columbia River bar beyond its project depth of 40 ft. will be more than $50,000,000, according to a report submitted to Army engineers at an Astoria, Ore., hearing on the proposed project.

The Columbia River Bar Pilots Association has been leading a fight to have the bar deepened to 48 ft. because of danger to big ships in entering the river in rough weather. The project depth of 40 ft. has been maintained for 20 years, but pilots insist a deeper entrance is necessary.



ROOFING THE U. S. CAPITOL—Nearly two acres of terraces over low-level wings were recently reroofed at a cost of $14,000. A 10-percent saving in man-hours was realized through use of the mechanical scrapers and sweepers. Slag topping of the six-year-old roof was removed by the 16-in. scraper, 8-in. scraper and 36-in. sweeper. New four-ply felt, pitch and slag roofing was applied.





TIME-DISTANCE STUDY—Remoteness of airports from city centers is a problem to be solved by expressway construction, according to this ARBA study. In Fig. 2 shaded length represents travel time expressways would save.

Airport-to-city expressway need cited

A survey made by the American Road Builders' Association shows that in some cases the time spent in going to and from airports exceeds the duration of flights between cities.

Covering 59 airports in 53 major cities, the study points up the need for expressways connecting air terminals with downtown city areas. Average travel time on the drive to the airport can be cut about one-third by expressway construction, according to Walter R. Macatee, manager of the ARBA airport division.

Results of the survey show that 49 of the 59 terminals included are 20 minutes or more from the center of the cities they serve; 23 are 30 minutes or more away. There are 17 airports 10 or more miles from the cities' business centers.

The survey also found airport routes plagued by traffic lights; 58 lights line the route from the Airlines Terminal Building on 42nd Street to New York International Airport.

In 54 minutes the traveler can fly from Detroit to Cleveland, but his ground travel time at both ends totals 100 minutes—nearly twice the flying time. The Los Angeles-San Francisco trip totals three hours and 15 minutes, but only two hours are spent flying.

Many expressways are in various stages of planning and construction in the cities studied. The ARBA at its recent convention in Washington, D. C., (ENR Feb. 17, p. 45) adopted a resolution urging earliest possible development of airport-to-city expressways.

Good Roads Association is formed in N. Y. State

Formation of the New York Good Roads Association, Inc., was disclosed with the filing of a certificate of incorporation with the Secretary of State. Anticipating an over-all membership of more than 500,000 residents of the state, the new association will seek to develop greater interest in the important part played by public highways in the general economic welfare.

The association plans to open headquarters in Albany within the next month. Charles H. Sells, who was New York State Superintendent of Public Works until Sept. 30, 1948, has been appointed executive director.

"The New York Good Roads Association," said Mr. Sells "has been created so that the millions of motorists, farmers and workers whose economic prosperity and safety depend so greatly upon the adequacy and efficiency of the public highways, will have an organization through which they may make their wishes known. It will be a medium, also, through which commerce and industry may join with the individual citizen in fostering adequate highway services. The association will be a helpful agency through which all principles of highway safety will be stressed."

Membership will be open to all New York State residents 18 years of age or older. Annual dues are one dollar.

Members of the board of governors which will direct the association until its first organizational meeting are: Charles H Sells of Cross River; John H. Hyland, Allen Eddy and Eugene J. Steiner, all of Albany, and William D. Ryan of Mechanicville.

An intensive statewide membership campaign, leading toward the formation of local chapters of the association in each county of the state is scheduled to begin immediately.

Forrestal discounts germ "super-weapon"

But he warns against underestimating potentialities of biological warfare

In a recently issued statement, Secretary of Defense James Forrestal called the idea of a biological "super-weapon" fantastic. However, he made it clear that the possibility of using germs or their poisonous products against an enemy was not to be underestimated.

Large-scale biological warfare has never been used by any nation, said Mr. Forrestal, but he went on to point out that studies were carried out during World War II and are still being continued in the use—both offensively and defensively—of biological warfare.

While Mr. Forrestal in his statement attempted to avoid sensational claims, he did bring out the following facts:

Germ warfare was a definite possibility during World War II, and intelligence reports found much enemy activity in this field. However, America was and is abreast of the rest of the world in development of biological weapons. It is now possible to produce a toxin causing ptomaine poisoning, one ounce of which would theoretically kill 150,000,000 persons. The problem is: how to reach the enemy with biological agents at test tube strength. Natural weakening takes place outside the laboratory.

Mr. Forrestal's statement is augmented by recent remarks by Maj. General Alden H. Waitt, chief of the Army Chemical Warfare Service. The Army's germ warfare research activity is carried out at Camp Detrick, Md., as well as at universities and laboratories throughout the country.

Corps of Engineers tells spring bidding schedule

Ice Harbor Dam on the Snake River near Pasco, Wash., will get started promptly if the Senate approves—as expected—Columbia River Basin project funds in the 1949 deficiency appropriations bill. The house has already passed the measure (ENR Mar. 10, p. 14).

According to the bidding schedule of the Corps of Engineers, bids will be opened June 1 by the Walla Walla, Wash., district for the cofferdam at Ice Harbor, estimated to cost $2,000,000 to $3,000,000. Total cost of the Ice Harbor lock and dam project is estimated at $86,000,000.

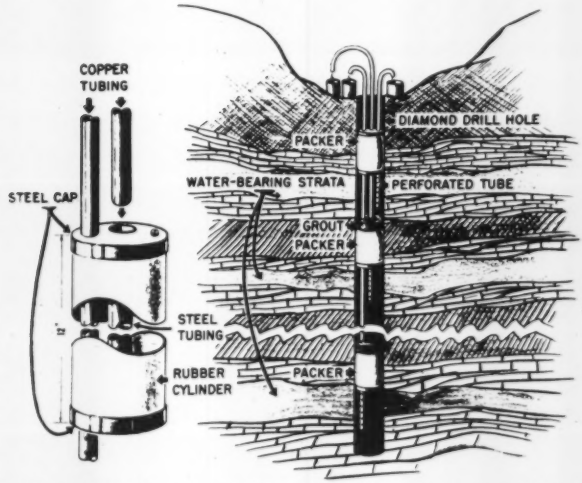
No bid openings before June 30 are scheduled at present for the second new multipurpose project in the Northwest—the $205-million Chief Joseph Dam on the Columbia. Four lettings are booked in the program to expedite construction of McNary lock and dam, with openings set for these dates at Walla Walla: March 30 and June 1, two railroad relocation contracts totaling $6,000,000-$9,000,000; June 1, transformers, $1,000,000-$2,000,000; June 28, levees, $2,000,000-$3,000,000.

Among other big jobs listed in the advance bid opening schedule of the Corps of Engineers are: March 31, Pittsburgh district, work on Conemaugh Dam, $7,000,000-$10,000,000; April 5 and 6, Alaska district, seven separate jobs totaling $16,000,000 to $24,000,000; April 15, Mobile district, work at Jim Woodruff Dam, $7,000,000-$10,000,000.

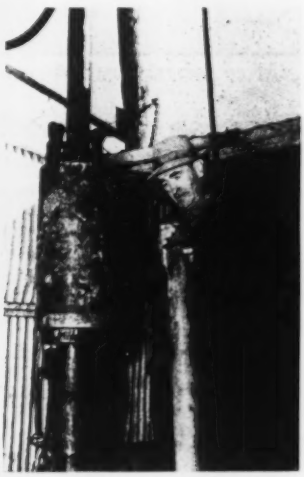
A. P. Black to head AWWA, other officers chosen

New officers of the American Water Works Association have been elected as follows: President, A. P. Black; vice-president, W. V. Weir; and treasurer, Wm. W. Brush. They will take office on June 3.

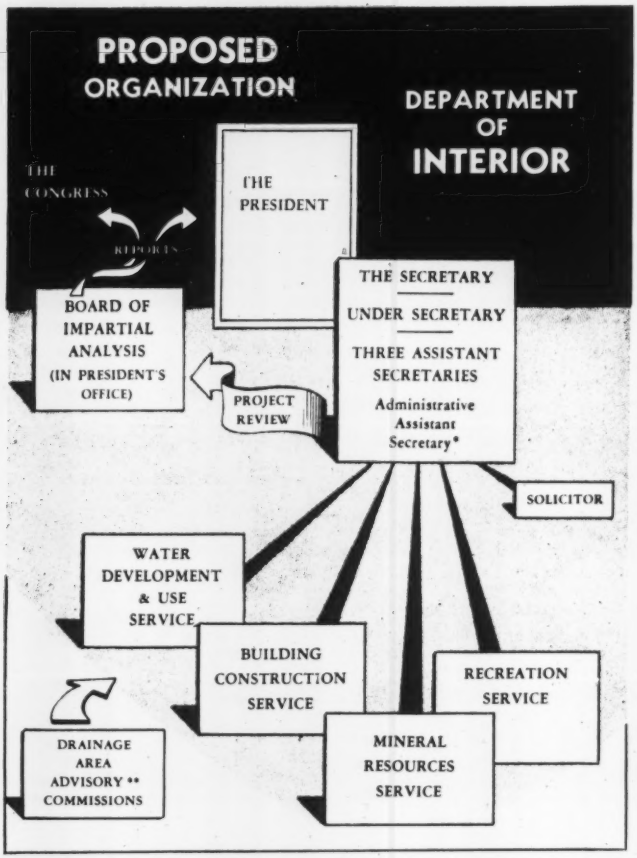
Dr. Black is professor of chemistry at the University of Florida. He succeeds Linn H. Enslow of New York. Mr. Weir is president of the St. Louis County Water Co. and of the Missouri Water Co. Mr. Brush is editor of WATER WORKS ENGINEERING.



SAVING ON BORING—A few steel hoops, rubber cylinders and copper tubing—plus considerable ingenuity—have resulted in a device with which engineers can measure depths and flows of up to eight underground streams through a single test hole. As shown above, the device utilizes three pipes pushed through to predetermined depths, to sample conditions at various levels of the hole. Bureau of Reclamation officials estimate savings possible through use of the rig will total over $10,000,000 over a period of years.



INVENTOR—E. D. Rhoades, diamond driller at Coulee Dam, Washington, stands beside drilling equipment at the dam. Rhoades has received a $1,000 prize from the bureau as a reward for developing the testing device. He has worked at dam sites throughout the Rocky Mountains.



COMMISSION RECOMMENDATION (Pictogram by Fooner)

Propose revamped Interior Department

(Continued from p. 9)

cifically opposing this recommendation. One other commissioner, James Forrestal, because of his position as Secretary of Defense, did not vote on proposals affecting the Corps of Engineers.

More than 16 months' work has gone into the preparation of the reports of the Commission on Organization of the Executive Branch of the Government, headed by Ex-President Hoover as the group's elected chairman. Created by an act of Congress (signed July 7, 1947), the commission is made up of six Democrats and six Republicans.

In addition to chairman Hoover and Forrestal, the members are Dean Acheson (vice-chairman), George H. Mead, Sen. George D. Aiken, Joseph P. Kennedy, Sen. John L. McClellan, James K. Pollock, Rep. Clarence J. Brown, former Rep. Carter Manasco, and James H. Rowe, Jr.

To the commission's report on the Interior Department, chairman Hoover added one foot-note opinion taking exception to a majority recommendation, and commissioner Forrestal contributed six. The minority report proposing a Department of Natural Resources was signed by vice-chairman Acheson and commissioners Pollock and Rowe. Commissioners Manasco and McClellan signed the dissent opposing transfer of Army Engineers functions.

In all, the Hoover Commission is sending 18 reports to Congress. The commission will meet in April to determine whether a summary should be prepared, for delivery probably in May. The last of the 18 reports is scheduled to reach Congress on Friday (March 25) of this week. The Interior document, submitted last Thursday (March 17) was thirteenth on the list.

To assist in the gathering and interpretation of data, the commission employed 23 task forces—groups of experts qualified to conduct studies and make recommendations in their specified fields. Reports of three such task forces—on natural resources, public works and agricultural activities—furnished the basic data for the commission's decisions on the Interior Department. The reports of the three task force groups were sent to Congress as appendixes to the main document.

Both the majority and minority reports of the Hoover Commission coincided in large part with the recommendations of the natural resources task force, headed by Leslie A. Miller, former governor of Wyoming. This task force proposed including public land resources; but the majority rejected that suggestion and assigned land management to Agriculture.

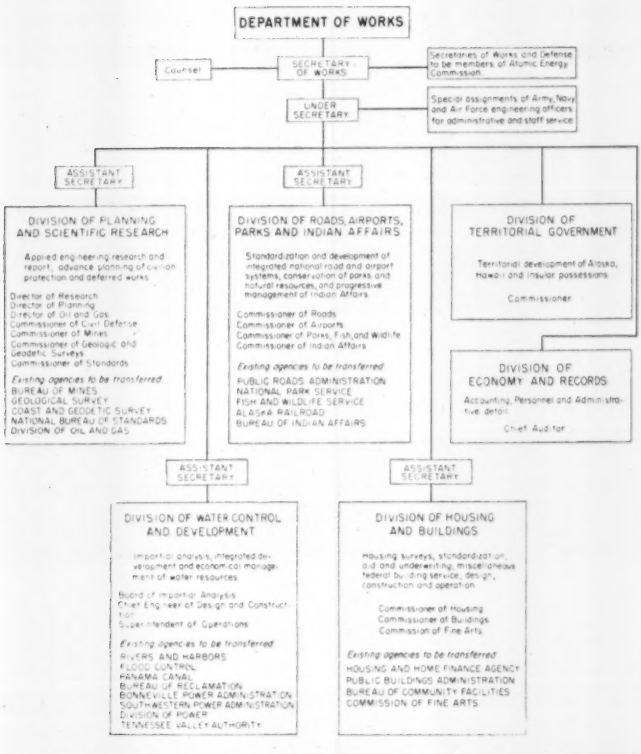
Department of Works

Somewhat similar proposals were made as part of the much broader reorganization scheme suggested by the public works task force. This group, composed of a large staff of advisers and consultants directed by Robert Moses of New York as chairman, recommended a federal Department of Works that would take in all government activities related to construction. The commission's majority report adopted a small portion of the task force recommendations on public works by proposing that federal building work be placed in the hands of Interior.

Other recommendations of the public works task force were rejected. The commission, for example, assigned to Commerce two agencies administering grant-in-aid programs—the Public Roads Administration and the Civil Aeronautics Administration. It also recommended that the housing agencies be grouped in a separate unit.

On another important point, the majority and minority reports on the Interior Department agreed with the task force on natural resources. Both reports advocated a board of impartial analysis—or board of review—attached to the President's office to study project proposals of the department. Chairman Hoover disagreed with this suggestion, as did commissioner Forrestal.

Mr. Hoover said there should be two boards—one for engineering projects and the other for architectural—and that they should be located in the department, to reduce the burden on the President and to review the proposals before they go to the Bureau


DEPARTMENT OF WORKS
Counsel
SECRETARY OF WORKS
Secretaries of Works and Defense to be members of Atomic Energy Commission
UNDER SECRETARY
Special assignments of Army, Navy and Air Force engineering officers for administrative and staff service
ASSISTANT SECRETARY
ASSISTANT SECRETARY
DIVISION OF PLANNING AND SCIENTIFIC RESEARCH
Applied engineering research and report, advance planning of civilian protection and deferred works
Director of Research
Director of Planning
Director of Oil and Gas
Commissioner of Civil Defense
Commissioner of Mines
Commissioner of Geologic and Geodetic Surveys
Commissioner of Standards
Existing agencies to be transferred
BUREAU OF MINES
GEOLOGICAL SURVEY
COAST AND GEODETIC SURVEY
NATIONAL BUREAU OF STANDARDS
DIVISION OF OIL AND GAS
DIVISION OF ROADS, AIRPORTS, PARKS AND INDIAN AFFAIRS
Standardization and development of integrated national road and airport systems, conservation of parks and natural resources, and progressive management of Indian affairs
Commissioner of Roads
Commissioner of Airports
Commissioner of Parks, Fish, and Wildlife
Commissioner of Indian Affairs
Existing agencies to be transferred
PUBLIC ROADS ADMINISTRATION
NATIONAL PARK SERVICE
FISH AND WILDLIFE SERVICE
ALASKA RAILROAD
BUREAU OF INDIAN AFFAIRS
DIVISION OF TERRITORIAL GOVERNMENT
Territorial development of Alaska, Hawaii and insular possessions
Commissioner
DIVISION OF ECONOMY AND RECORDS
Accounting, Personnel and Administrative details
Chief Auditor
ASSISTANT SECRETARY
ASSISTANT SECRETARY
DIVISION OF WATER CONTROL AND DEVELOPMENT
Impartial analysis, integrated development and economical management of water resources
Board of Impartial Analysis
Chief Engineer of Design and Construction
Superintendent of Operations
Existing agencies to be transferred
RIVERS AND HARBORS
FLOOD CONTROL
PANAMA CANAL
BUREAU OF RECLAMATION
BONNEVILLE POWER ADMINISTRATION
SOUTHWESTERN POWER ADMINISTRATION
DIVISION OF POWER
TENNESSEE VALLEY AUTHORITY
DIVISION OF HOUSING AND BUILDINGS
Housing surveys, standardization, aid and underwriting, miscellaneous federal building service, design, construction and operation
Commissioner of Housing
Commissioner of Buildings
Commission of Fine Arts
Existing agencies to be transferred
HOUSING AND HOME FINANCE AGENCY
PUBLIC BUILDINGS ADMINISTRATION
BUREAU OF COMMUNITY FACILITIES
COMMISSION OF FINE ARTS
DEPARTMENT OF NATURAL RESOURCES
EXECUTIVE OFFICE OF THE PRESIDENT
Oil and Gas Division
SECRETARY
BOARD OF REVIEW AND COORDINATION 5 Members
WATER DEVELOPMENT SERVICE
Rivers & Harbors (Army)
Flood Control (Army)
Bureau of Reclamation (Interior)
Bonneville Power Admin. (Interior)
So. Western Power Admin. (Interior)
Division of Power (Interior)
Federal Power Commission
International Boundary Streams (Interior)
FOREST & RANGE SERVICE
GEOLOGICAL SURVEY
BUREAU OF MINES
NATIONAL PARK SERVICE
FISHERIES & WILDLIFE SERVICE
GENERAL LAND OFFICE
TERRITORIAL GOV'T AND INDIAN AFFAIRS
(OPTIONAL)

RECOMMENDATIONS OF TASK FORCES presented two separate approaches, both of which differ widely from the Hoover Commission's recommendations.

of the Budget. Mr. Forrestal maintained that the review function should remain in the Budget Bureau, with adequate staff to take care of it.

To back up its recommendations, the commission listed several reasons for its proposals: (1) To coordinate federal policies in construction and in development of natural resources, including oil; (2) to eliminate disastrous conflicts and overlaps that cost enormous sums annually; (3) to establish a center for more energetic development of resources—and for collection of adequate hydrologic data, now lacking; (4) to make it easier to coordinate federal and state policies in the fields of resources development and construction; (5) to set up a central source for engineering advice to other government agencies; (6) to give Congress an overall grasp of the government's major construction activities, and (7) to centralize the planning of federal construction in such a way that it can be used to counterbalance the rise and fall of national construction volume and employment.

Simplification sought

In keeping with the underlying philosophy of the Hoover Commission's work, its Interior Department report aims: (1) To reduce the number of executive agencies reporting directly to the President; (2) to establish a direct line of authority from the President to the department secretary and thence through successive levels down to the lowest echelons; (3) to group under one management all those functions that relate to a single major purpose; and (4) to provide some flexibility to the department in spending its appropriated funds for greater economy and efficiency.

These objectives are not easy to accomplish. The accompanying chart indicates how the first three might be aided by the proposed Interior reorganization. The fourth would depend largely on appropriation measures passed by Congress.

Transferring public buildings and community services, as recommended by this report, from the Federal Works Agency to Interior would complete the dismemberment of FWA and abolish it as a unit of the executive branch. The Hoover Commission in an earlier report on the Commerce Department (ENR March 17, p. 71) had proposed shifting the Public Roads Administration from FWA to a new transportation service in Commerce.

In advocating unification of Army river development functions with related government activities in the Interior Department, the commission recommends that "Army engineers who can be spared from military duties be detailed to the department in positions similar to those they now hold in the Corps of Engineers." On this question, the commission quotes its task force on natural resources:

"Painful as the operation may be, the case for a unification of functions of the Corps of Engineers and the Bureau of Reclamation is so overwhelming that it ought to be effected without further delay. The training provided in peacetime for . . . Army engineers at present utilized on this civilian program can surely be secured in some far less costly fashion—perhaps by arrangement with the new water development service or in various installations of the armed services themselves. There is a real question in any event as to how far these water resource activities are useful in training for wartime problems."

The public works task force went farther to show how a consolidated department could be used to train engineers from all three of the military services. In a quotation from the task force report, the commission says:

"The Secretary of Defense temporarily should assign to the Secretary of the Interior engineer officers of the Army, Navy, and Air Force who would direct and be engaged in public works tasks commensurate with their rank and experience. In this way, particularly, junior officers would obtain varied training and experience. The Secretary of Defense would continue, as he does now, to prescribe regulations relating to service, rotation of duties, and promotion of these engineer officers, with full power to withdraw them from the Department of the Interior during times of emergency. The Corps of Engineers of the Army would continue in close contact with the best civilian engineering brains in the country to perform functions of a military engineering nature under the Secretary of Defense. Only the civil functions of the corps would be transferred to the works department."

Unified water programs

A further reason for unified organization of water development agencies, the commission declares, is to permit the determination of policies upon a watershed basis, with a voice to the states. The commission therefore recommends that a drainage area advisory commission be created for each major basin, comprising representatives from the Interior and Agriculture departments and from each state concerned. These boards, it explains, should be coordinating and advisory groups, not administrative agencies.

With regard to international boundary streams, the commission's report recommends that the State Department continue to negotiate international agreements, but that all construction be made a function of the water development and use service of the reorganized Interior Department.

According to the Hoover Commission's proposals, the Tennessee Valley Authority would remain a separate enterprise of the government. It would not be brought under the jurisdiction of the suggested water development service.

Grouping certain major construction activities in the proposed building construction service would bring together under one management operations now being carried on by some ten or twelve other agencies of the government. Excluded from this grouping would be the work of the Atomic Energy Commission, as well as the federal-aid programs of CAA and the Public Health Service. PRA, likewise, would continue to manage its own activities—primarily federal aid to highways—in its proposed new location in the Commerce Department.

Radio operated gates control mountain traffic

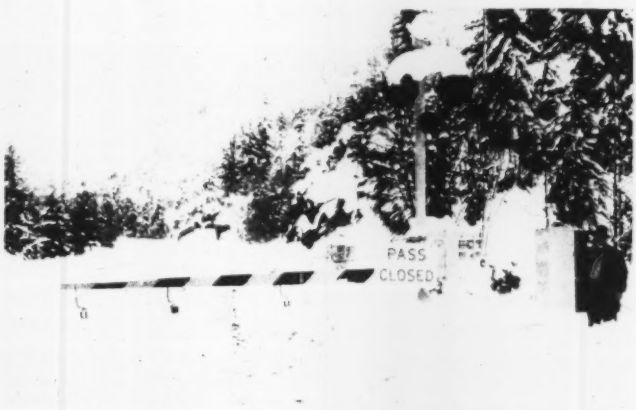
Radio-controlled traffic gates for protection of motorists from rocks or snow slides are in operation on Snoqualmie Pass in the state of Washington. They are controlled by an existing FM transmitter located at the summit of the pass and used by the state Department of Highways. Gates are located four miles from the summit on either side.

A 1,000-cycle tone oscillator was added to the control unit. When the 1,000-cycle tone has broadcasted continuously for ten seconds, it is picked up by a standard mobile FM receiver located at the gate. This tone is selected from other frequencies and fed to a time delay relay, which, if actuated for ten seconds, starts the gate in operation.

Red warning lights flash and a bell rings. Then thirty seconds later the gate drops.

The gate used is a Model 10 standard railroad crossing gate in which the motor acts as a brake, causing the gate to drop slowly. Since thirty seconds warning is given before dropping the gate, ample time is given for traffic to stop.

While the gate is in down position the transmitter emits a warning tone which lasts two seconds out of each minute. Each gate has a different tone.



SAFETY ROADBLOCK—Traffic on an eight-mile stretch of Snoqualmie Pass (Wash.) is regulated by radio-controlled gates operated by the state highway department.

Since this transmitter is on the same frequency as mobile units in the network, the tone is picked up by both the control point at the summit and any mobile units in the vicinity. Thus all radio operators in the network know which gate is down.

When it is desired to raise the gates, the operator presses a switch. After a delay of ten seconds, the gates will automatically open, and the warning equipment will shut down.

During the time the gates are operating, loud speakers are switched in on the receivers at the gates, allowing the radio operator at the summit or the operator of any mobile unit to talk to the lines of cars stopped by the gates. In this way motorists can be advised as to the reasons for the road closing and the length of the delay.

The main transmitter used to control the gates is supplied by an emergency power plant at the summit. Since the main transmitter at the summit was already in operation, the total cost for installation of the system that of the two gates—$7,500.

Congress must decide if Supreme Court is to settle Colorado River dispute

Truman message says court suit in California-Arizona squabble is acceptable to him if Congress sees no other solution to problem

President Truman has spoken out twice recently on the Colorado River controversy. The long-standing California-Arizona dispute over distribution of Colorado water is delaying his decision on the merits of the central Arizona project.

Through the director of the Bureau of the Budget, the President first told Interior Secretary Krug that authorization of the project is not in accord with his program at this time. He recommended that measures be taken to bring about prompt settlement of the water rights controversy.

Congressmen immediately asked whether his recommendation implied that the President favored the new congressional joint resolution (S. J. Res. 4 and H. J. Res. 3) to permit suit to be brought before the Supreme Court to settle the conflicting Arizona-California claims. Except for slight modification to satisfy objections of the Justice and Interior departments, this year's resolutions are duplicates of those introduced in the 80th Congress (ENR June 3, vol. p. 915).

Possibly another solution

To clarify the President's meaning, the budget director sent another letter to chairman O'Mahoney of the Senate committee on interior and insular affairs. The letter explained that the President never had indicated that a Supreme Court suit was the only method acceptable to him for resolving the dispute. Reiterating what the President had told Congress last year, the letter stated that enactment of the resolution would be acceptable to him "if the Congress feels that it is necessary to take such action in order to compose differences among the states."

As before, California and Nevada are backing the present bills to authorize a Supreme Court suit. Lined up against it are Arizona and the four other states of the Colorado basin. These states contend that the settlement of Colorado River water rights is not a justifiable question. Congress, they say, ought to authorize a project like the proposed Central Arizona project; any state that feels injured could then bring suit. To put the present controversy before the Supreme Court for decision, they assert, might jeopardize rights they now hold under existing laws and would almost certainly delay authorization of needed projects such as Central Arizona.

First action on the bills will come in the Senate by the interior and insular affairs committee.

There is a possibility that the committee at the same time will consider hearings on another bill (S. 75) to authorize the Central Arizona project. Chances of this bill's reaching the Senate floor for a vote during this session are reasonably good, its proponents believe.

California's effort to bring out a resolution for a Supreme Court suit has a better chance on the House side, its advocates think. The House resolution—introduced in identical form by every representative from California—is now pending before a subcommittee of the judiciary group.

Indirectly involved in the controversy are House and Senate bills to approve the upper Colorado River compact signed by commissioners of the states last October (ENR Oct. 21, 1948, p. 9). The Senate bill has been reported out by the public lands committee and is now on the calendar for action. California wants to send the measure back to the committee to add an amendment. The suggested addition would re-emphasize the fact that congressional approval of the upper basin compact does not change any existing laws governing Colorado River water rights.

The Bureau of Reclamation early last year reported that the Central Arizona project had engineering feasibility. Reimbursable costs of $658 million out of a total project cost of $738 million (at July, 1947, prices) could be repaid in 78 years, the report indicated. Interior Secretary Krug in September sent the report to Congress with a recommendation that the project be authorized.

LOWER AWAY—First 20-ft. length of pipe through which Columbia Basin water will flow in 1952 is lowered into Grand Coulee Dam pumping plant—largest in the world. Installation of 9,000 ft. of pipe is being done by Consolidated Western Steel Corp. of Los Angeles, under a sub-contract from Morrison-Knudsen-Peter Kiewit Sons Co.

DEVELOPMENTS ABROAD

WATER FOR SAN JUAN—Loiza filtration plant will cover a 12-acre site near San Juan, Puerto Rico, and provide water at the rate of 30 mgd. for the entire metropolitan area.

Puerto Rico—The first phase of a $40,000,000 island-wide water supply and sanitation program that has integrated the municipal services of more than 70 communities is nearing completion with construction of the Rio Grande de Loiza filtration plant and pipeline.

The Loiza project is designed to provide adequate and healthful water service to the 400,000 residents of the greater San Juan area—a region comprising about twelve communities surrounding the Puerto Rican capital. It is expected to be in partial operation this year.

Until the planned dam is built to form a reservoir, the filtration plant will receive raw water from Loiza River by means of a temporary pumping installation, purify it at a rate of 10 mgd., and deliver it to the present distribution system serving the San Juan area.

Work on the dam and reservoir will be launched this year, and the construction of these installations will involve a $6,000,000 investment for initial phases only.

Eventually the filtration plant is planned to process 30 mgd. The entire project, according to Sergio Cuevas, Administrator of the Aqueduct and Sewer Service, should be sufficient to meet all requirements of the crowded metropolitan areas well beyond 1975—provided a normal twenty-five year population expansion occurs.

Development of the water supply systems in their ultimate phases will involve an expenditure of around $25,000,000. In addition, the Aqueduct and Sewer Service has blueprinted a comprehensive sanitation system, especially for the crowded San Juan area, as well as in other heavily populated centers, and an additional $13,000,000 is earmarked for a system of trunk lines, lateral sewers and a pumping plant and modern treatment plant that will possess sufficient capacity to treat the sewage effluent for many years.

Transport

Switzerland—At a recent closed United Nations conference in Geneva an agreement was reached which sets up a European highway network linking all extremities of the continent.

According to the agreement, the road network will be kept permanently in repair at standard specifications.

Maps of the network have not been published as yet. The 14-nation commission has agreed to keep secret the European road network agreed upon until it can be considered by the governments involved. Original plans for the system were drawn by the United Nations Economic Commission for Europe.

Chief aim of the study was to link all major European cities with fast, good roads which would permit international traffic to cross borders with minimum delays. The group discounted as impractical at this time the Channel tunnel project—long dreamed of link between France and Great Britain.

Countries participating in this conference at Geneva were Austria, Belgium, Czechoslovakia, Denmark, France, Italy, the Netherlands, Norway, Poland, Sweden, Switzerland, the United Kingdom and the United States. The three western occupation powers represented Germany.

India—Twenty-five used trolley cars —veterans of New York City street traffic—are at present en route to Bombay, where they will augment a badly run down municipal transit system. Though the cars are of fairly modern vintage, having been built between 1935 and 1940, they have been forced from New York City streets by bus transportation. They will prove to be newer than anything yet seen by Bombay commuters.

Ebasco Services, Inc., of New York City, represented the City of Bombay in the purchase.

Housing

Israel—The builder of Levittown on Long Island now plans to construct Levittrea, a 5,000-unit housing development in the State of Israel. Levitt & Sons of Israel has been formed as an American corporation to undertake the project—its financing and its construction.

Present plans call for starting construction this July in an attempt to complete the entire development by July, 1950. The houses will be of poured concrete construction and will be situated on a 300-acre site eight miles south of Haifa. A quarry will be developed on the building site to produce sand and gravel.

The houses will be sold by the builder for $4,000 on terms which correspond to those given to veterans in the United States—a small down payment followed by monthly payments, which are to be made on a 25-year mortgage.

Bridges

Belgium—A contract for what is believed to be the first prestressed concrete bridge incorporating continuous spans was let recently in Belgium. To be built over the Meuse River at Sclayn it will consist of two 206-ft. hollow-girder spans continuous over a central pier. Entreprises Blaton Aubert, of Brussels (according to the Preload Co., New York, which is associated with this firm for U. S. work) received the contract on a bid that was second low among twenty-three submitted on alternate designs. The low bid, for a concrete bow-string arch, was rejected because it required three piers in the river.

Reinforcing will consist of groups of wires 412 ft. long strung within the girders but not encased in concrete. Each face of the box girders will also be

reinforced with ordinary wire mesh.

The bridge is being built by the Belgium Department of Public Works. Prof. Gustave Magnel of the University of Ghent is consulting engineer.

Financing

Israel—Recently an Export-Import Bank credit of $6,000,000 has been authorized to this newly formed state. This amount will be used for the purchase of buses and trucks in the United States.

Previously the Export-Import Bank had authorized a credit to the State of Israel in the amount of $35,000,000 to assist in carrying out the agricultural phase of the development program. Also, there has been earmarked $65,000,000 for financing projects in the fields of transportation, communication, industry and construction.

Although this $6,000,000 credit represents only 10 percent of the total motor vehicle requirements of the state for the next three years, it is expected to go far toward relieving the transportation situation which has become critical due both to the over-age of existing trucks and buses and the steady increase in population.

Belgium—The International Bank for Reconstruction and Development—popularly known as the World Bank—recently granted Belgium a $16,000,000 loan to finance imports of equipment for the construction of two steel mills and a power plant in the Liege industrial district. Three private Belgian corporations—two steel companies and an electric utility—will use the money to buy equipment abroad.

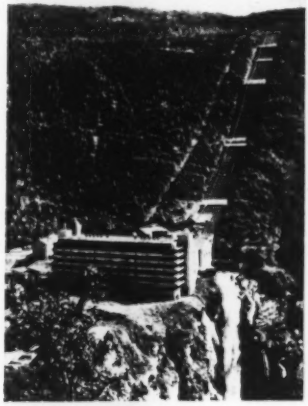
The loan runs for 20 years with interest at 4½ percent, including a one percent commission that goes into the bank's special reserve fund. Amortization will start in the fifth year.

Of the total bank loan, $4,500,000 will be used to purchase equipment abroad for a cold rolling mill with tin-plating facilities by the Compagnie des Fers Blancs et Toles a Froid, a newly established subsidiary of S. A. John Cockerill, the oldest and largest steel manufacturers in Belgium.

Another part of the loan—$5,800,000—is to be used for buying equipment abroad for a blooming mill by S. A. d'Ougree Marihave, the second largest Belgian steel corporation.

The remainder of the loan, $5,700,000 will be spent on equipment to be imported for a central power station now under construction by one of the largest Belgian power transmitting and distributing companies, The Union des Centrales Electriques de Liege-Namur-Luxembourg. This organization is a cooperative.

MADE IN JAPAN—This 1,600-ft. reinforced concrete bridge over the Tama River is on the modern highway from Tokyo to Yokohama. It has been under construction for two years at a cost of 130 million yen—400,000 U. S. dollars. (Wide World Photo)



RESTORED BY ERP—This huge hydro-electric plant in the Telemark Mountains of southern Norway was destroyed in 1943 to prevent its being used by the Germans. It is now completely rebuilt—thanks to ERP funds. Heavy water is a by-product of the plant. (Wide World Photo)

Switzerland—High costs are strangling the world's construction industry, the International Labor Organization said in a report issued recently in Geneva.

The survey urged governments, employers and unions to cooperate in reducing costs and stabilizing the industry.

It called for the introduction of large-scale mechanized methods of production and assembly and "for reduction of monopolistic and restrictionist practices."

ILO is the international government-labor-management organization set up originally under the League of Nations and continued as a specialized agency of the United Nations.

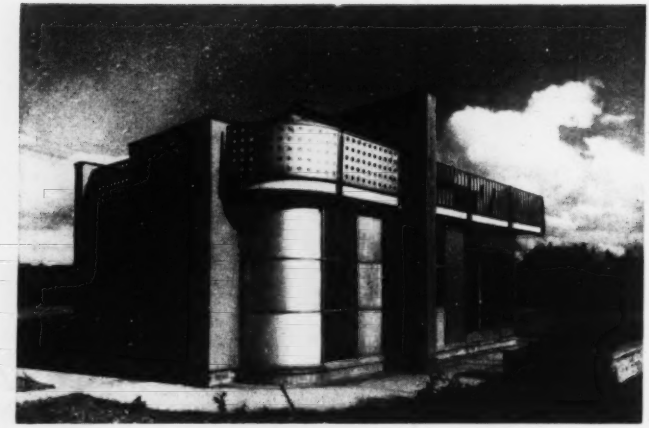
Miscellany

Egypt—The second International Technical Congress is being held in Cairo, March 20-26. Theme of the meeting is "Raw Materials as an Industrial and Social Problem." Discussions are to be divided into three sections: industrial raw materials and their rational utilization throughout the world; social aspects of technical development and of raw material problems; and the problem of water in the Middle East.

Three U. S. engineers are to deliver papers before the Congress. They are: W. H. Carson, dean of the school of engineering, University of Oklahoma; Morris L. Cooke, Philadelphia management engineer and government consultant; and James S. Thompson, vice-chairman of the board, McGraw-Hill Book Co., Inc., New York.

Dean Carson will stress the need for educating engineers to devote more time to participation in social, civic and political affairs. Mr. Cooke's paper entitled "Multiple-Purpose River Valley Development," will present highlights of this type project in various parts of the world. The responsibility of technical literature as an international influence is the subject of Mr. Thompson's paper.

Dominican Republic—Ciudad Trujillo, capital city of the republic, has voted $91,000,000 for public works construction over a four-year period. Of this amount, $25,000,000 will be spent during 1949.



House of many parts . . .

. . . tests British building materials

(McGraw-Hill World News Bureau)

In Birmingham—the heart of England's industrial midlands—stands a house that will never be occupied.

Its ultra-modern architectural design is alien to the taste of the majority of the tradition-loving British; its location (in the lee of the city's incinerator) would be tolerable only to the most desperate house-hunter. And its single-story one-room layout is something less than a householders' prayer.

But the house is fitted out with its own circulating hot-water heating system, running water, gas, fluorescent lighting and two different systems of the most modern electrical wiring.

This house without a tenant—erected in January, 1947—is the Imperial Chemical Industries experimental building station. It stands on the grounds of I.C.I.'s Metals Division factory at Witton, one of Birmingham's suburbs. (The Metals Division is one of Britain's largest producers of rolled and extruded non-ferrous metal products, including copper, brass and other copper alloys, and aluminum and numerous aluminum alloys).

The experimental building station is intended to provide a permanent framework, within which, from time to time, building products can be tried out in an actual structure, in combination with other materials. The building will never be "completed," since its components may be torn up, stripped off, or taken apart; studied closely to observe what has happened to them and how well they have stood up; and replaced with other and newer versions of the product.

The house is on fill at an elevation of 300 ft. above sea-level, and only a few feet above normal water-table level. The River Tame runs close by. Prevailing winds, from the southwest, bring the heavily smoke-laden atmosphere of industrial England. And, as mentioned above, not far away from the building's northwest corner is the Birmingham Corporation's refuse incinerator.

Floor combinations tested

The floor consists of a 6-in. thick "sandwich," made up of two layers of concrete with a copper membrane between. The lower slab, which is 4 in. thick, had its upper surface smoothed to a spade-finish. On this surface was laid a waterproofing layer consisting of 18-in. wide strips of 0.008-in. sheet copper, lapped 2 in. and sealed with a bituminous emulsion binder. The upper slab, 2 in. thick, was cast with special care to avoid puncturing the copper membrane.

The finish floor was placed in two different compositions: the larger portion of marble-chip terrazzo (¾-in. screed), divided into 3-ft. squares by patented aluminum, aluminum-alloy and brass extruded strips; the remaining part of magnesite (magnesium-oxychloride), similarly divided. The alloy strips are of two types, one containing 4 percent copper and one 2 percent magnesium.

In the terrazzo floor, where the aluminum and aluminum alloy strips were placed the marble chips have been repelled slightly from the dividing line. No such phenomenon occurred along the brass strips.

Building technicians think this repulsion—which appeared very soon after the initial drying of the floor—may be due to a gasifying of the aluminum in contact with the wet cement. They plan very shortly to re-lay part of this floor area, to observe more closely the time of the occurrence. They also have in mind trying out a precoating of cement slurry on the aluminum strips before laying, to see if this will remove most of the gas in the early stages, before final placing of the terrazzo finish.

Roof cantilevered

The building was designed to provide the maximum amount of wall-opening, to accommodate a large area of test-panels, particularly in the southerly elevation. To this end, the reinforced concrete roof is of cantilevered

design, with extra reinforcing stiffening a longitudinal portion running east-west into what is in effect a beam supporting the overhang of the roof on the south side.

Solid portions of the wall are of normal 11-in. cavity-wall brick construction, formed of two 4½-in. brick skins separated by a 2-in. air space. The inner and outer skins of the brickwork are tied with twisted and fish-tailed wall ties of 1 x ¼-in. copper tape.

At present, this portion of the wall is finished off—on both interior and exterior surfaces—with coats of cement-lime-sand.

Six metals used in waterproofing

The copper membrane in the floor is tied into the dampproof course in the wall by a flexible copper joint section, which absorbs any settlement or movement between wall and floor.

In the north wall, the dampproof course, flashing, and parapet coping are each made of six different metals, arranged in vertical arrays, side by side.

At least two new metal shapes were worked out by I.C.I. for use in the construction of the wall of the experimental building. One of these—a horizontal stop—is built right into the brickwork just above the concrete sill, its slanted top providing a means of tapering off the exterior wall finish. The other is a metal asphalt stop, which simplifies the intersection of the asphalt roof coating with the dampproof course in the parapet wall. The stop is built into the brickwork; the asphalt is carried up the wall to this level, and then the stop is bent down to make a tight seal.

Both of these shapes have been fabricated in all of the six materials cited above, and are incorporated in the structure in similar order.

Wall grid holds test panels

A wall grid was installed for supporting finish test materials. Extending from floor to ceiling and forming a large portion of the southerly elevation, the grid is basically a large multiple-window framework assembled from standard I-section posts, hollow box-section door frame members, and Z-section cross members—all of extruded aluminum alloy.

The flat-surfaced portion of the grid is framed in sections of magnesium-silicate alloy, fully heat-treated and anodized natural color. The curved portion is framed in 2 percent magnesium alloy.

The panels (three-high) of this wall grid can be glazed or filled with whatever opaque materials are to be tested. At present one vertical array is of ¼-in. plywood panels covered on both exterior and interior surfaces with three different polyvinychloride-coated fabrics developed by I.C.I.'s Leathercloth Division. Another consists of sheets of 18 S.W. ga. pure commercial-grade aluminum, surfaced on one or both sides with different wood veneers, phenolic-resin-bonded. Still others are made of plain resin-bonded plywood panels with oiled surfaces.

In the curved portion of the grid, commercial-grade pure aluminum sheets with surfaces etched by caustic and anodized natural color by the sulphuric-acid process were installed for observation. Adjoining this array is one of flat aluminum sheets with textured surfaces applied by the impression process, where a stencil is introduced between the rolls. (Textured designs hold out some promise of being an attractive treatment for metal-clad exterior walls.)

To compare the action of the more common primers for use with the various types of aluminum alloy (such as those used in the construction of the wall-grid), white lead, red oxide, pure aluminum dispersions, and alkyd were applied to selected sections. This coat was followed by a standard undercoat and a synthetic resin glossy finish. The horizontal foundation strip running just above the concrete sill, moreover, has been used as proving ground for uncovered primers.

Metal windows installed

Examples of both casement and double-hung windows of standard design are incorporated in the structure.

In the north wall, side by side, are two casement windows; one fabricated in magnesium-silicide aluminum alloy, anodized natural color; the adjoining one, of identical design, in brass (58.5 percent copper, 40 percent zinc, 1.5 percent lead, and 0.25 percent aluminum).

The aluminum alloy casement is already showing some signs of pitting, which it is thought may be due to a faulty job of anodizing. In any case, technicians feel that there is need for regular and more thorough cleaning of anodized aluminum surfaces wherever a heavily fume-laden industrial atmosphere is encountered. The building as a whole has been given only the same degree of dusting and wiping that an ordinary house would receive.

In the west wall, close to the northwest corner, is an extra-wide double-hung window, with standard hollow extrusions for the sash and special sections for the casing—made of an alloy similar to "Kynal" N39/2 (magnesium-silicide) aluminum alloy. The window housing is designed to provide for 100 percent opening, both sashes being lowered into a hollow box below the sill-level. This box is faced with commercial-grade pure aluminum sheet, backed with felt to deaden the bumping.

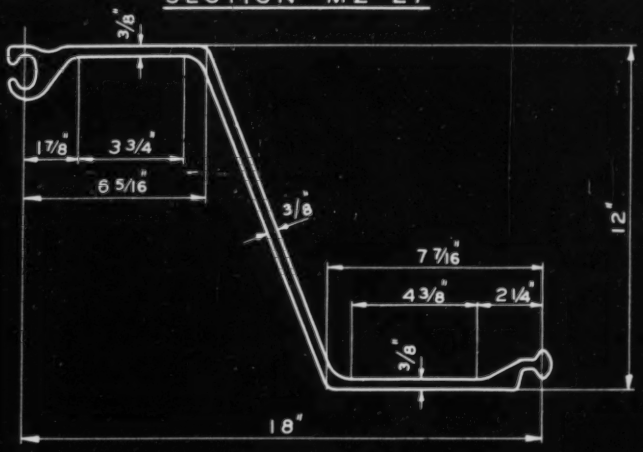
Roof serves as guinea pig

The window is fully weatherstripped in mohair plush, and the metal surfaces have been scratch-brushed only and left without any further protection, to observe atmospheric action on this kind of finish. Some initial pitting can be noted, but there is no evidence yet of serious progressive deterioration.

The flat roof is of reinforced con-

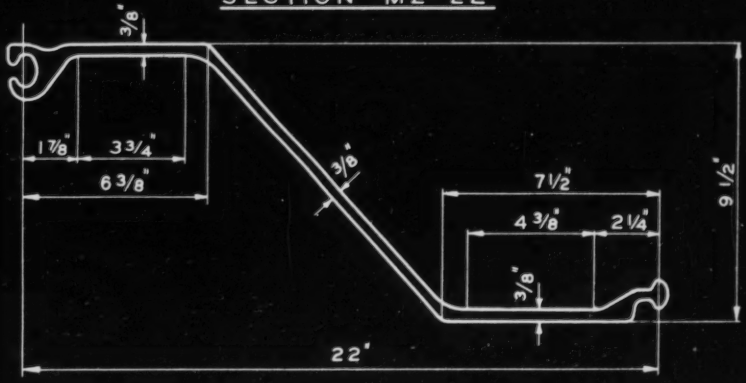
TWO TYPES OF ROOFING are tested on the two penthouses. At left is "locked bar" type of metal sheets on a double-pitched roof; at right, panels are formed of copper-clad plywood sheets.

SECTION MZ-27



WEIGHT PER FOOT	40.5 POUNDS
WEIGHT PER SQ.FT. OF WALL	27.0 POUNDS
MOMENT OF INERTIA PER PILE	267.3 "4
SECTION MODULUS PER PILE	45.3 "3
SECTION MODULUS PER FT. OF WALL	30.2 "3

SECTION MZ-22



WEIGHT PER FOOT	40.3 POUNDS
WEIGHT PER SQ.FT. OF WALL	22.0 POUNDS
MOMENT OF INERTIA PER PILE	167.4 "4
SECTION MODULUS PER PILE	34.8 "3
SECTION MODULUS PER FT. OF WALL	19.0 "3

NOTE: U-S-S PILING SECTIONS MZ-27 & MZ-22 INERLOCK WITH EACH OTHER. THEY DO NOT INTERLOCK WITH ANY OTHER U-S-S STEEL SHEET PILING SECTIONS.

CORNERS AND OTHER FABRICATED CONNECTIONS ARE MADE FROM FLANGES OF EITHER SECTION, CONNECTED BY SUITABLE ANGLES OR BENT PLATES. RECOMMENDED SIZE ANGLE 3½" x 3½" x ⅜".

Now...

Two new sheet piling sections of advanced design

U·S·S MZ-27 *and* MZ-22

offering highest beam strength at minimum weight

EXTENDING the series of Z piles introduced a few years ago by MZ-38 and MZ-32, these new sections are designed to meet the demand for lighter weight units.

Employing the ball-and-socket type interlock and having a uniform web and flange thickness of ⅜ inches, sections MZ-27 and MZ-22 are designed to afford high section modulus and long life at minimum weight.

Because you will have many occasions to use these new sections, we suggest that you tear out and file the accompanying data sheet for future reference. Consult our nearest office for information.

ave this data sheet for future reference

CARNEGIE-ILLINOIS STEEL CORPORATION

Pittsburgh and Chicago

Columbia Steel Company, San Francisco, *Pacific Coast Distributors*
Tennessee Coal, Iron & Railroad Company, Birmingham, *Southern Distributors*
United States Steel Export Co., New York

7-1065

MAIL COUPON TODAY

for complete new 56-page book on Steel Sheet Piling- *FREE!*

Carnegie-Illinois Steel Corporation
2079 Carnegie Building, Pittsburgh, Penna.

Please send me without charge or obligation, the new book on U·S·S Steel Sheet Piling, including information on the new sections MZ-27 and MZ-22.

Name..... Title.....

Company.....

Address.....

City..... State.....

USS STEEL
UNITED STATES STEEL

UNITED STATES STEEL

crete, covered with a smooth, natural-lake-asphalt surface coating. It is surrounded partly by a brick parapet and partly by a decorative balustrade. The latter was made of panels framed by magnesium-silicide alloy extrusions and filled with perforated sheets in 2 percent magnesium aluminum alloy.

Surmounting the flat roof are two small penthouses, with brick walls. One of the penthouses has a double-pitch roof, the other is single-pitched.

At present, the double-pitched roof is covered with a newly developed patented construction, called "Locked-Bar" roofing. This may be erected entirely from below, with metal-covered panels, 18 in. wide, running longitudinally with the slope of the roof. The panels are supported and linked by the rafter members—inverted channel strips—which provide a water run-off as well as lock the panels tightly.

The roofing is composed of a 30 S.W. ga. metal facing on a panel of vapor-sealed cane-fiber insulating board and pressed hardboard. The two layers are bound on the longitudinal edges by a metal angle strip that stiffens the panel and also provides the means of linking one panel with the next.

The ridge is covered by a special cap-section, made of 16 S.W. ga. sheet copper, which is bolted to the supporting framework. This copper section is kept from contact with the aluminum roofing by a layer of roofing felt. Even with this precaution, the only significant corrosion of the roofing materials occurs close to this section, where water-borne salts have resulted in considerable surface corrosion of the aluminum-clad panels.

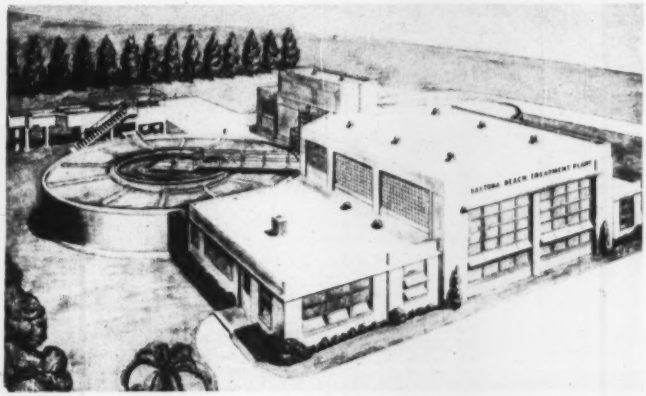
The single-pitched roof is covered with ¼-in. plywood, faced with 36 S.W. ga. copper sheet. These panels are carried (in place of normal glass sheets) in extruded manganese-bronze glazing bars.

House made livable

The building is heated by two convectors linked in a closed-circuit hot-water system with forced circulation. Small-diameter copper pipe is used.

Also, cold running water is furnished through copper pipe. For gas, however, thin-walled aluminum pipe was installed in conjunction with standard brass fittings and similar fittings in magnesium-silicide alloy to observe the behavior of these two metals when in intimate contact with each other. Elsewhere, a variety of standard brass fittings are used with copper pipe.

The building was designed by Arcon Ltd., London architects. Close co-operation is maintained with the staff of the British Government's Building Research Station.



COMPACT TREATMENT PLANT for Daytona Beach, Fla., is made possible by use of combined coagulation and sedimentation basins.

Pocket-size sewage disposal plant tailored for use of small city

Now completed and ready for full operation is a new type sewage disposal plant developed for the city of Daytona Beach, Fla. Engineers believe it might well be a prototype to fill the needs of many small cities.

Virtually vest pocket in size, the plant is fundamentally a high-rate chemical precipitation plants that utilizes very low cost chemical coagulants.

Space requirements of the process are so small that it is conceivable that such a plant could be constructed entirely underground in a park, under a street, in a commercial or residential district—in fact, anywhere a conventional large sewage pumping station could not be constructed.

The initial plant combines coagulation and sedimentation basins and houses the remainder of its equipment in a relatively small structure.

The principal chemical coagulant utilized in the process is calcium carbonate, obtained in large volume at Daytona Beach from the local municipal water-softening plant. This presently useless by-product sludge contains several times the amount of calcium carbonate required, but the excess carbonate presents no problem and has considerable advantages.

Pilot experiments indicate an overall BOD removal of 70 to 80 percent, with only one-hour detention in a specially designed combination coagulation and sedimentation basin. Although results indicate twice the BOD reduction of conventional primary treatment, initial cost at Daytona Beach is much less than ordinary primary treatment.

Before the Florida State Board of Health would approve construction of the plant, it insisted on a manufacturer's surety bond to guarantee specified BOD and suspended solids removal.

Pilot-plant tests indicated that there might be great value in the combined carbonate and sewage sludge removed in the process. It is apparent that the combined raw sludge dewaters (without digestion) very readily on vacuum filters. This fact has long been known in conventional chemical precipitation plants, using high cost "pebble lime" or hydrated lime. In addition to the valuable organic matter, this process sludge contains calcium carbonate—so-called argricultural lime.

After the Daytona Beach plant is in full operation, experiments on the sludge will be conducted for the development of a satisfactory commercial fertilizer.

The developers believe that if their process—now undergoing final laboratory checks—is successful, considerable savings in initial treatment plant costs may be made, and many other important economic aspects may be developed. For example, because of the small space requirements, individual strategically located plants of this type could conceivably eliminate the high cost of conventional outfall and interceptor systems required for transportation of sewage to the conventional isolated plant site.

The process was developed by Russell & Axon, consulting engineers of Daytona Beach, and the equipment for the plant has been manufactured by Infilco, Inc., of Chicago.

OBITUARY

Glen H. Trout, 69, retired assistant chief engineer of the Union Pacific Railroad, died March 11 at Omaha, Neb. He started with the company as assistant engineer, Idaho division of the Oregon Short Line, in 1903 and served as assistant engineer of all divisions until 1912 when he was appointed bridge engineer. During the first world war he was works manager of the Chester, Pa., Shipbuilding Co. He returned to the railroad and became assistant chief engineer in 1942 and retired in 1945.

F. Dean Stewart, 60, assistant chief engineer of the Ohio health department, died March 10 at Columbus, Ohio. A former lieutenant colonel in the U. S. Army Sanitary Corps, he had been with the state department of health for 30 years. He was a civil engineering graduate of Ohio State University.

Lester W. Bosley, 50, construction engineer with the Public Buildings Administration for the last 14 years, died in Washington, D. C., March 10. He was a University of Maryland graduate of 1922.

Louis Fahnestock, 100, engineer, who was a member of the first engineering party sent west to build the Northern Pacific Railroad in 1870, died March 11 in Washington, D. C. He traveled in a covered wagon with the Northern Pacific Railroad construction crew and soon became an assistant engineer. He went to Washington in 1889 to work for the old Richmond & Danville Railroad, which later became part of the Southern Railway System.

Joseph C. Mott, 73, builder, died March 8 in Washington, D. C. Educated at Cornell University, he began his building business in New York City and later went to the both coasts. He supervised the expansion construction of Fort Meade and went to Washington in 1941 when his employers, the J. E. Greiner Co. of Baltimore, contracted to build the temporary bridges over the Potomac. He retired three years ago.

Winfield Tuthill Potter, 59, one of the outstanding contractors in the South, and recently resigned as president of the Carolinas Branch of the Associated General Contractors became of ill health, died March 7 at his home in Greenville, S. C. He went to Greenville in 1913 as head of Potter & Shackelford Contracting Co.

William Dickie, 67, died at his home at Richmond Hill, Ont., on March 5. He was founder of the Dickie Construction Co., Toronto. Born in Scotland, he came to the United States in 1901, and went to Toronto in 1912. He had retired from his construction company seven years ago.

Col. Louis E. Jones, civil engineer and former general manager of the Canada Ingot Iron Co., died at his home at Guelph, Ont., on March 5. A graduate in engineering from the University of Toronto, he was assistant engineer at Vancouver, B. C., prior to 1914, was in active service overseas in First World War, and on returning to Canada practiced as a professional engineer. He was for a time with the Ontario Department of Highways, and in the contracting business. In 1925 he became Ontario sales manager with Canada Ingot Iron Co., and general manager in 1933, retiring in 1946.

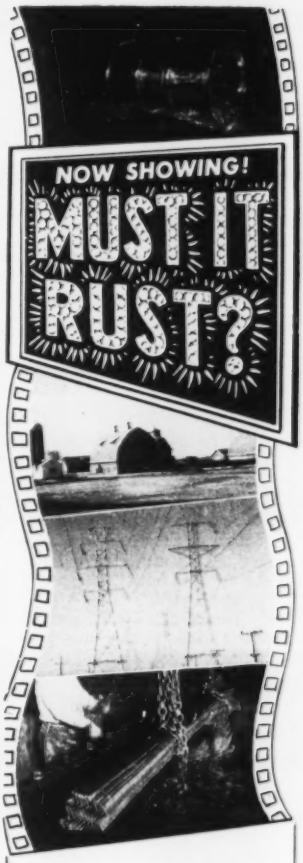
Sandford E. Thompson, 82, authority on management and industrial problems, and well-known for his contributions to engineering science, died in Phoenix, Ariz., Feb. 26. He was a lieutenant-colonel in the Ordnance Department in the first world war, and as consultant engineer was advisor on many government commissions, and a consultant to the Secretary of War during World War II. A graduate of Massachusetts Institute of Technology, 1889, he was the author of many technical articles on construction materials, and president of Thompson and Lichtner Co., consultant engineers, specializing in materials of construction.

Last 3 generator units bought for Grand Coulee

Contracts for the last three of 18 generating units at Grand Coulee Dam have been let recently to Westinghouse Electric Co. This equipment will cost $5,250,000, and the total cost of installation will be near $9,000,000.

With these generators in operation the plant will have a rated capacity of 1,794,000 kw. and an estimated emergency output of 2,200,000 kw. The installation is expected to be completed and in use in 1952.

Contract for six of the nine units in the right power house were let some time ago. The nine units in the left power house are already in operation.



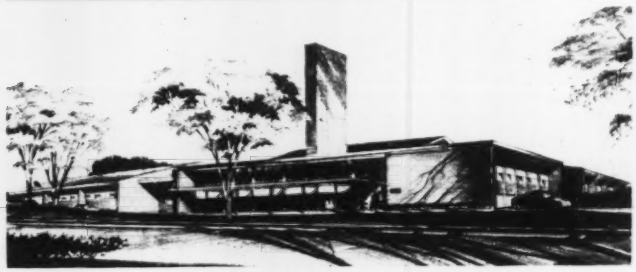
"MUST IT RUST?" A three billion dollar question that is dramatically answered in our 16 mm sound motion picture. This educational film is one that interests both consumer and producer—and everyone who is concerned with the problems of rust and corrosion should see it.

A print of this film will be gladly loaned—

Regarding availability of this 25-minute sound film in 16 mm size, for showing to your personnel, or to any group in your community, write, The Secretary, American Hot Dip Galvanizers Association, Inc., First National Bank Building, Pittsburgh, Pa.

hot-dip GALVANIZING

MUNICIPAL AFFAIRS



A NEW TYPE OF COMMUNITY PLANNING is featured in this proposed combination school and community center for Minneapolis, Minn.

The sketch above, prepared by Magney-Tusler & Setter, architects and engineers, illustrates an unusual plan for a center to contain not only adequate school and park facilities but also to lend itself to the use of an entire neighborhood in a fast-growing section of northeast Minneapolis. Land has been obtained for the project.

The plan is a joint project of Parent-Teacher Association groups and a special school-park board committee.

The school building itself will be of the modern, functional type, featuring economical construction and low maintenance cost. It will be an elementary school of one story, except for a two-story administration community center at its heart. That segment will be adapted for school use by day or conversion to community use at night.

There will be 16 classrooms, two kindergarten rooms with playrooms, teachers' lounge with kitchen, an arts and crafts room, combination visual aid room and auditorium, and combination playroom and gymnasium.

Park development plans call for an athletic field, a picnic area, a children's outdoor theater, wading pools, swings, two tennis courts, volley and basketball courts, and a recreation building for use as a warming house in the winter.

Parking Plans

Toledo, Ohio, and Syracuse, N. Y., are among the latest cities to come up with unusual plans to ease their parking problems and clear heavy business district congestion.

Construction of a $1,000,000 parking garage under the Courthouse Square in Toledo has been proposed as a solution to that city's parking requirements. The garage would house an estimated 800 cars on one level, or about twice as many if built on two levels. Wernert, Taylor, Senzenbacher and Morris, Toledo, consulting engineers, submitted preliminary plans in the hope it would stimulate more interest in solving the parking problem. Under the plan, the county would lease the property to the city, which would construct the underground garage with funds obtained by a bond issue. The city would then rent parking space to private car owners.

Under the existing Ohio parking law, municipalities are barred from entering the parking business. A statute permits cities to assemble land for off-street parking but requires that the property be re-sold to private operators within a period of three years. However, it is believed possible to get a court ruling authorizing the project.

The Ohio Supreme Court recently ruled that Cleveland could operate its municipally-owned underground garage inasmuch as the structure is located adjacent to a number of public buildings.

At Syracuse, the Clinton Square Development Association has revealed a $2,500,000 plan to park 800 cars in the downtown section. Details have been submitted to the city administration and are being considered. The idea is to build a two-tier underground garage beneath Clinton Square or the next block north. Another 800 vehicles could be housed beneath that block on North Salina Street for an additional expenditure, estimated at $2,900,000.

Pittsburgh Civic Theater

The Edgar J. Kaufmann Charitable Trust and the city of Pittsburgh each is contributing $500,000 toward a million-dollar open-air theater for light opera. It will feature a roll-back roof covering and an oval amphitheater seating 9,000 persons.

The amphitheater, having a 50-ft. revolving stage, will be built on city property next to a city park in the East End district.

A stationary stage will measure 130x80-ft. There will be parking facilities for 1,500 cars. Architects are Mitchell and Ritchie.

Big Bridge for Vancouver

John R. Grant, consulting engineer, has been appointed to prepare plans for the new $8,000,000, eight-lane Granville Street Bridge in Vancouver, B. C., which will span False Creek from the downtown peninsula to the industrial-residential area to the south.

Mr. Grant, a structural engineer and early proponent of Burrard Bridge, only high-level bridge now spanning the creek, has already made rough sketches and specifications for the 3,800-ft. deck-truss through-span.

The new bridge will be at the spot where the original timber bridge crossed at the beginning of the century.

In addition to Burrard Bridge, Mr. Grant has been engineer for a number of other major projects, including Kootenay River suspension bridge at Brilliant and the Deep Creek viaduct in the Cariboo. He also is designing engineer for the Greater Vancouver Water Board in charge of Seymour Dam.

Ft. Wayne Waterworks

Engineers have advised a $7,000,000 rehabilitation and enlargement program for the Ft. Wayne, Ind., water works to bring it to a capacity sufficient for the next 15 to 20 years.

This report, made after a survey by a Michigan engineering firm, contains more than 50 pages of written findings in addition to numerous charts and maps.

The rehabilitation and expansion program, the report sets forth, can be done over a 10-year period and when completed should meet the city's water demands up to 1965.

More Water for Niagara

Cost of the proposed expansion and improvement of the Niagara Falls, N. Y., water system will be in excess of $10,000,000, including interest charges, but the huge project will assure the city an adequate water supply for the foreseeable future, proponents claim.

Here, according to present plans, is what the city would get for the money: Extension of the water intake line to the Emerald or West river channel between Grand and Navy Islands for a less polluted supply; a modern filtration plant on the site of existing plant No. 1, Buffalo

Ave. near Fifty-Third St., plus a new chemical building, new pumping station and wash water tower; extensive revisions and additions to the original section of No. 1 filtration plant and reinforcement of the distribution system by construction of a new feeder main to supply sections now supplied by No. 2 filtration plant; abandonment of filtration plant No. 2 at Buffalo avenue, and 13th St. near the Adams power station; and a new 2,000,000-gal elevated water tank in the north end section near Beech Ave.

Sewers for Indianapolis

Indianapolis, Ind., has started construction of its largest sewer project in 15 years. It consists of a $1,500,000 East 34th St., sewer and a $500,000 East 37th St. sewer, designed by city engineers to provide storm and sanitary drainage for the additions between Fall Creek and Emerson Ave. and 32nd and 38th Sts. The $2,000,000 estimate is a rough guess, according to city engineers. It may run into a $3,000,000 project.

The two main sewers are a part of the city's multimillion sewer program. The new main sewers will service 15,000 homes, and will empty into an interceptor to be constructed between 30th and 37th Sts. at an eventual cost of $1,000,000.

Municipal Notes

New York City will create a new centralized traffic commission and a department of traffic engineering. Director of the new department will be T. T. Wiley, who has been assistant city traffic engineer of Detroit, Mich.

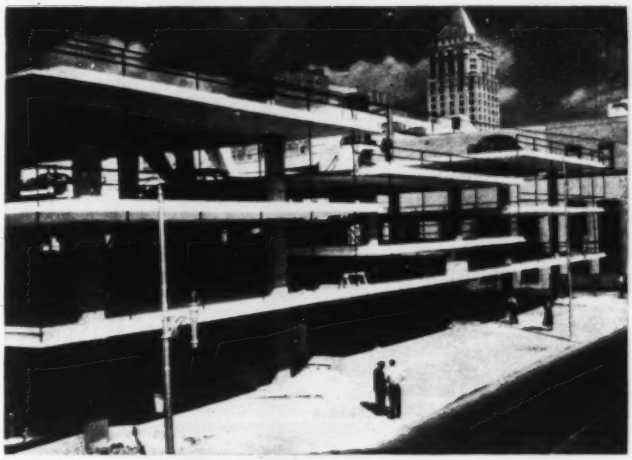
Citizens of **Indianapolis, Ind.**, have given more than $200,000 for use as equity capital in carrying out redevelopment of blighted areas through construction of rental housing for low income families.

The total estimated cost of the civic center and off-street parking plan recently proposed for **Jacksonville** and **Duval County, Fla.**, is $7,799,750.

An air pollution control board has been created by **Winston-Salem, N. C.**, which is looking for an engineer to head this work.

The Board of Estimate of **New York City** has appropriated $115,000 to pay indemnities to tenants forced to move because their homes are in the way of public improvements.

A. W. Haddow, city engineer of **Edmonton, Alta.**, has been put in charge of a $41,000,000 expansion program spread over five years.



BUILDING WITHOUT WALLS—This downtown parking garage in Miami, Fla., is a building without walls. Made of poured reinforced concrete, it is three "decks" high and has a capacity for parking 360 automobiles. World Wide photo

Bids have been asked on the double-decking of Wacker Drive, **Chicago**, from Lake Street to Randolph Street.

A municipal electric power plant has been proposed for **Anderson, Ind.** The structure, to cost upwards of $500,000 would be financed through an issue of revenue funds.

More than $6,000,000 in street and airport work and other improvements is scheduled for completion this year in **Omaha, Neb.**

The board of safety of **Buffalo, N. Y.** has been directed by the common council to make an immediate study of the city's public transportation system, with the cooperation of the city planning commission, police department, municipal housing authority, and other local agencies.

After 16 months of work, the zoning committee of the city plan commission of **St. Louis, Mo.**, has prepared a zoning bill, designed to replace the 23-year-old existing ordinance.

A program of slum clearance which will eliminate at least 20 blighted residential areas in **Boston, Mass.**, and redevelop them with proper housing is now being drawn up by the local planning board.

Camden, N. J., has lost its plea to postpone construction of a $15,000,000 sewage treatment plant has been ordered to get the project under way.

Plans of **Phoenix, Ariz.**, to install floodgates at Horseshoe Dam on the Verde River have been approved by O. C. Williams, state land and water commissioner. The city, which will spend $800,000 for the floodgate installation, will thus increase its domestic water supply by about 25,000 acre-ft. a year. Rights of downstream users, which issue had snagged progress, are protected under the agreement. Phoenix is also considering a master street plan for the next decade.

Milwaukee, Wis., may help solve its downtown parking problem with a large, self-service municipal parking structure, the interim parking commission indicated. It would be in the civic center area and would house more than 2,000 cars in a multiple-decked building. A committee has been appointed to study self-parking as opposed to a facility using attendants.

A committee of the San Jacinto chapter of the Texas Society of Professional Engineers has been named to make specific suggestions for a new city building code for **Houston.**

The widening of Boylston St., **Boston**, from Charles St. to Massachusetts Ave., to create a 6-lane traffic artery, will be proposed in the Massachusetts Legislature as an alternative to the proposal to construct an express highway along the Esplanade of the Charles River. It is said that by cutting down the wide sidewalks on Boylston St., the street could be made to carry much heavier traffic than it does now.

MEN AND JOBS

Walter T. Brooks, chief engineer for the Tennessee Department of Highways and Public Works, has resigned to go to Knoxville to open a branch office for H. W. Lochner & Co. engineers and architects, of Chicago, Ill.

Robert M. Ellis, assistant superintendent of public works for Takoma Park, Md., has resigned.

Lieut.-Col. Thomas J. Hayes, 3d, assistant military attache at the American Embassy in London and civil engineer, has been appointed assistant engineer commissioner for Washington, D. C., to replace **Col. Kenneth E. Madsen**. Colonel Hayes was graduated from West Point in 1938 and received his engineering degree at the Massachusetts Institute of Technology a year later. During the war, he served with General Young at Fort Belvoir, Va., and also saw service on the Alcan Highway and in Greenland, Alaska, Canada and the Bahamas.

Norman J. Goode, former district sanitary engineer in Saskatchewan for the Public Health Engineering Division, has been appointed by the British Columbia Department of Public Health and Welfare as assistant public health engineer. An engineering graduate of the University of British Columbia, Mr. Goode, before his federal appointment, served in the Canadian army for three years. He was also employed as a hydrometric engineer in the dominion water and power bureau at Vancouver.

Five members of the Cleveland Section, American Society of Civil Engineers, who recently received life memberships, left to right, Charles E. Maxfield, senior assistant civil engineer, Cleveland Department of Public Service; Howard F. Schryver, assistant engineer, New York Central Railroad; Hubert E. Snyder, managing director, Toncan Culvert Manufacturers' Association; David Lowensohn, president of the Lowensohn Construction Co.; and Kenneth H. Osborn, vice-president, Osborn Engineering Co.

In recognition of his 45 years of service to the building industry in New York City, the last 28 as chairman of the board of governors of the Building Trades Employers' Association, Christian G. Norman recently was presented with parchment testimonials by the BTEA executive committee and the Building & Construction Trade Council, A. F. of L. Mr. Norman is shown at his home in Amityville, N. Y. From the left: Howard McSpedon, president of the Trades Council; Mr. Norman, holding a picture of the BTEA board of governors; Peter W. Eller, new chairman of the board, and Thomas A. Murray, president of the N. Y. State Federation of Labor.

G. H. L. Dempster, superintendent of Kootenay, Yoho, Glacier and Mount Revelstoke national parks, with headquarters at Field, B. C., since 1947, has been appointed superintendent of Jasper National Park in Alberta, with an area of about 4,200 sq. mi. He was graduated from the University of Saskatchewan in civil engineering in 1934.

Sam P. Turnbull has been named Florida state highway engineer, and **Scott Reynolds** is assistant. **H. E. Lewis** succeeds Mr. Turnbull as assistant division engineer at Bartow.

Joseph C. Lopez, former American Air Lines eastern regional manager, engineering department, Airports and Buildings Division, has joined Airways Engineering Corp., of Washington, D. C., as assistant to the president.

Robert H. Tittle has been promoted to engineer of construction for the Illinois Highway Division to succeed **C. M. Hathaway**, recently named chief highway engineer. Tittle has been with the highway division for the last 29 years and in his new position will supervise all state, county and city road, street and highway projects financed through state motor fuel tax funds.

Norman B. MacRostie, civil engineer of Ottawa, Ont., has been appointed provincial government representative on the Ottawa Hydro Electric Commission, succeeding **P. D. Ross**, resigned.

The Virginia State Highway Department has announced that **R. W. Smethie** has been appointed right-of-way engineer for the Fredericksburg highway district. An alumnus of V.P.I., he formerly was associate right-of-way engineer at the department's headquarters in Richmond.

E. C. Fulmer, with the Army engineers at the Muskingum Watershed Conservancy District at Dover, Ohio, has been transferred to the Army's district offices in Huntington, W. Va.

Col. Paschal N. Strong, district engineer for the Corps of Engineers at Savannah, Ga., has been given duty in

CAPT. F. F. CHANDLER of the dredge of Hendry Corporation, left, and W. C. Smith, Jr., resident engineer of the Georgia State Highway Department, at the big project of road relocation, new bridges and road which will connect Brunswick with Jekyll Island.

K. E. LUKE, city engineer of Wellington, New Zealand, is pictured above with C. A. Rothrock, center, planning engineer of the State Road Commission of West Virginia, and M. L. Kent, highway economist of the P. R. A., Federal Works Agency.

RATED HIGH among those who build big dams are these veterans of the industry currently supervising construction of the Corps of Engineers' $12,650,000 Narrows Dam being built near Murfreesboro, Ark., for flood-control and electric power development on the Little Missouri River. They are, left to right, John C. Shewmake, resident engineer in charge; Russell C. Baker, chief of construction division, Vicksburg District; and C. L. Coray, project manager for the contractors, the Arundel Corp., Baltimore, Md., and L. E. Dixon Co., San Gabriel, Calif., joint venturers.

Japan. He initiated the construction of the Clark Hill multi-purpose project on the Savannah River.

T. P. Scholz, formerly Whatcom County engineer at Bellingham, Wash., has been named Bellingham city engineer to succeed **Ed W. Gooch**, who retired from that position but continues with the department.

Governor Dewey has nominated **Charles H. Sells**, former New York State public works superintendent, to be a member of the Port of New York Authority. Mr. Sells, an engineer, was public works superintendent from 1943 to 1948.

Walter L. Dickey, San Francisco structural engineer, now heads the structural section of the power division of Bechtel Corp. Included in the work under way is a 300,000-kw steam plant for the Pacific Gas and Electric Co.

Sidney Gorman has been named assistant harbor engineer for the Port of San Francisco, succeeding **Harry E. Squire**, advanced to chief engineer. Gorman was formerly chief civilian engineer at the San Francisco Naval Shipyard. Also, he had been on the engineering staff for the San Francisco-Oakland Bay Bridge and chief construction engineer during the building of the Golden Gate International Exposition at San Francisco in 1939.

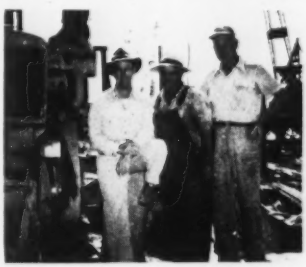
Louis B. Ackerman, former resident engineer for O'Sullivan Dam near Moose Lake, Wash., has been named chief of the United States Reclamation Bureau's Region 6 construction division, at Billings, Mont. He joined the bureau in 1927, a year after graduation from the University of Idaho. Before going to O'Sullivan Dam in 1946, he was construction engineer on the Rathdrum Prairie project near Coeur d'Alene, Idaho, for about two years.

Floyd D. Bailey is engineer in charge of the road department of Hinds County, Miss. His past associations were with the Mississippi Highway Department, the Illinois Central R. R., The Louisiana State Highway Department, and one year with the U. S. Engineers.

D. S. MacBride has been elected president of the Hercules Cement Corp., Philadelphia, after 12 years association with the company as vice-president for sales and executive vice-president. Prior to joining Hercules, Mr. MacBride had been, first, a district engineer of the Portland Cement Association and later, associated with the Lone Star Cement Corp., where, as manager of the Incor Division, he played a prominent role in introducing the first high early-strength cement in the U. S. Mr. MacBride replaces Joseph Brobston, one of the elder statesmen in the cement industry who becomes chairman of the board of directors. Now in his fiftieth year as a cement manufacturer, he was one of the original members of the Portland Cement Association, and for more than 30 years he has been a member of Committee C-1 on Cement of the American Society for Testing Materials.

Bachrach photo

Edmund N. Bacon, appointed executive director of the Philadelphia City Planning Commission, succeeding the late Raymond F. Leonard, will direct the multi-million dollar program charted by the commission, a good part now under way. He directed the preliminary designing of the Schuylkill Expressway. He is a graduate of Cornell University, 1932. From 1937 to 1939 he was secretary of the Flint, Mich. City Planning Commission. He was managing director of the Philadelphia Housing Association from 1940 to 1943. He served two years in the Navy and took part in the invasion of Iwo Jima and Okinawa.



Supervising work on a 1,000x75-ft. wharf being built for the American Sugar Refining Co. at its Chalmette Refinery just outside of New Orleans include, left to right, W. H. Bruce, resident engineer for Parsons, Brinckerhoff, Hall and Macdonald, consultants; Peter Healey, concrete foreman and D. J. Wilson, field superintendent, both of the Raymond Concrete Pile Co., contractors on the work.

How will

Dry-Type Power Centers

provide BETTER answers to your power distribution needs?

FIRST CONSIDER ALL THESE ADVANTAGES

- Fire and explosion-proof
- No exposed live parts
- Positive interlocking of circuit breakers and switches
- Separate breaker compartments

- Costly vaults eliminated
- Location near center of load
  - Shorter secondary cables—less copper
  - Better voltage regulation
  - Lower line losses
- Light weight

- No testing or reconditioning of liquids
- No maintenance of gaskets, valves and level gauges
- All parts readily accessible
- Drawout circuit breakers quickly inspected or replaced

- Shipped complete—installed as a unit
- Light weight

- "Unitized" design saves valuable floor space

- Undivided responsibility for manufacture and correct functioning of all equipment
- Factory-assembled and tested—as a unit

- Enclosures of modern matched design

Westinghouse

PLANTS IN 25 CITIES . . . OFFICES EVERYWHERE

Now, Do You Have All the Answers?

. . . no, not quite, for it is almost imperative that you select the *best* power distribution *system* possible.

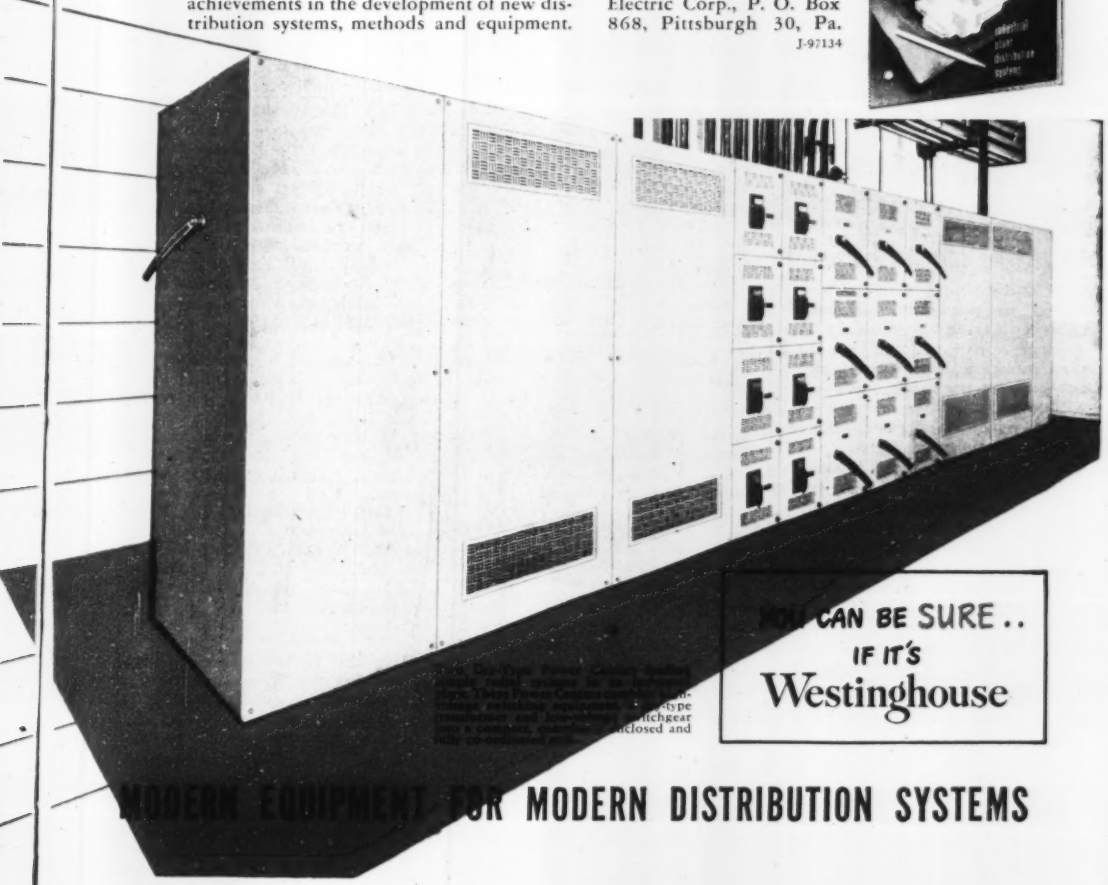
What is the Best system?

. . . it is the system which gives the greatest value per dollar of investment *and* economically and safely supplies adequate electric service to both the present and future plant loads.

Close Westinghouse co-operation and years of practical experience with all types of industries have led to many outstanding achievements in the development of new distribution systems, methods and equipment. Westinghouse offers such co-operation to all industries in searching out better answers to all phases of distribution and application of power.

Write for the new booklet *"Industrial Plant Distribution Systems"*. Fact-filled pages and colorful diagrams will help you in selecting a system that best meets your requirements. Call your Westinghouse office. Ask for B-4045—or write Westinghouse Electric Corp., P. O. Box 868, Pittsburgh 30, Pa.

J-97134



YOU CAN BE SURE . . IF IT'S Westinghouse

MODERN EQUIPMENT FOR MODERN DISTRIBUTION SYSTEMS

WHEELER
SELF-POWERED TELEPHONES

- *SIMPLE TO OPERATE*
- *POSITIVE IN ACTION*
- *EFFICIENT COMMUNICATION*

Only three simple acts are required to put these efficient communications systems into quick, positive action. They'll give you clear, distinct talking and ringing up to 20 miles — will serve you long and faithfully without maintenance trouble or expense.

Wheeler Self-Powered Telephones require no batteries or other power supply. Two wires connect the pair of standard size and quality telephone sets. They're compact, tough and convenient. See your jobber or write for descriptive booklet SA-8.

THE WHEELER INSULATED WIRE CO., INC.
1703 EAST AURORA STREET
WATERBURY 91, CONNECTICUT

DIVISION OF THE SPERRY CORPORATION

Elections and Activities

At San Jose, Calif., the General Contractors Association of Santa Clara County has elected M. L. Blanchfield, president; V. F. Van Dalsem, vice-president; and H. W. Cowell, secretary. The Stanislaus County section of G.C.A. at Modesto has re-elected A. C. Carroll as president. Milo Allen is vice-president and Hans Pearson secretary-treasurer.

Robert R. Sheridan is president of the Rochester Section of the ASCE, succeeding Henry G. Lehrbach. Other officers: A. Bradford Squire, first vice-president; Herbert P. Kopf, second vice-president, and William S. Little, secretary-treasurer.

The Northern Virginia Builders Association has named Arthur Pomponio president; Kenton D. Hamaker, vice-president; Charles Bittinger, Jr., secretary and L. S. Hurley, treasurer. Named to the executive committee was Larry T. Dale.

Wisconsin Section, ASCE has elected: President—O. Neil Olson; 1st vice-president—Fred M. Sloane; 2nd vice-president, LeRoy W. Empey; secretary-treasurer—C. W. Yoder; Directors—Edw. H. Schmidtman and James G. Woodburn.

J. A. Thompson has been elected president of AGC's Southern California chapter. Other officers: Vice-presidents, J. P. Shirley, Jr., and B. M. Laulhere, Jr., and Claude A. Fisher; treasurer, Donald E. Reed.

E. D. Sloan, Greenville, S. C., was elected president of the Carolinas Branch, Associated General Contractors of America, succeeding W. T. Potter, Greenville, resigned.

Howard F. Schryver, assistant engineer, New York Central Railroad, has been elected president of the Cleveland, Ohio, section of the American Society of Civil Engineers. He succeeds W. R. Swatosh, assistant engineer, Erie Railroad. C. Merrill Barber, of Barber & McGee, consulting engineers, was named vice-president, and Alfred D. Yanda, design engineer, Innerbelt Freeway Planning Office, Cleveland, was re-elected secretary-treasurer. Certificates of life membership in the ASCE were awarded to C. E. Maxfield, senior assistant civil engineer, Cleveland Department of Public Service; H. E. Snyder, managing director, Toncon Culvert Manufacturers' Association; David Lowensohn, president, Lowensohn Construction Co.; K. H. Osborn, vice-president, Osborn Engineering Co.; W. A. Stinchcomb, director-secretary, Cleveland Metropolitan Park Board; and Mr. Schryver.

Directors of the Associated General Contractors of Minnesota have elected George Heller, Minneapolis, president, succeeding J. R. Sweitzer; P. M. Dougall, secretary-treasurer; and G. T. Maloy, D. J. M. Leek, and John Dieseth, vice-presidents.

The Seattle, Wash., chapter of the National Society of Professional Engineers has elected Howard E. Schroedel, president; William D. Sharp, vice-president; Millard M. Hill, secretary and C. O. Mannes, trustee.

Higher salaries for engineers in all state government branches were recommended by the Texas Society of Professional Engineers at a recent convention. The Society says substantially higher pay should be provided for engineers in the highway, health, Railroad Commission, and water departments. Officers elected were O. H. Koch, president; Mason Lockwood, vice-president; and Marvin C. Nichols, second vice-president. Officers and the following will serve as directors: M. M. Anderson, S. H. Fagadau, W. O. Washington, R. R. King, Nat Hardy and Dale Hopper.

T. C. Heyward is president of the North Carolina Society of Engineers, succeeding R. P. Reece. Other officers H. D. Jones vice-president; Leroy M. Keever secretary-treasurer; and H. M. Van Oesen, Sam Wilson, Hal Crain, F. F. Lewis and J. B. Stepp, directors.

The Association of Professional Engineers of Ontario has elected W. J. W. Reid president; E. V. Buchanan, vice-president; W. H. McLaughlin 2d vice-president; and G. M. Muir, secretary.

Hamilton Hicks has been elected president of the Wilmington, N. C., Engineers Club. Other officers: L. I. Lassiter, vice-president; Robert L. Coleman, Jr., secretary, and M. W. Clark and J. A. Wright, members of the executive committee.

W. A. Kennedy has been elected president of the Charlotte, N. C. Engineers Club, succeeding John R. Purser. Other officers are George S.

Rawlings, vice-president; Glen A. Coan, secretary; and John L. Rosenblatt, treasurer. Directors Neil H. Brown, R. W. Olive, Russell Ranson, R. Marrett Wheeler and Purser.

Verne Johnson has been elected president of the Spokane Construction Council; Russell Babcock vice-president; Sheldon Kizer, treasurer; and Mrs. Elizabeth Stone, secretary.

Officers of the South Carolina Society of Engineers are John A. McPherson, president; H. G. Haynes, vice-president; and A. E. Johnson, secretary-treasurer.

Northeastern Section ASCE, at Boston, Mass., has elected Arthur Shaw, president; Arthur Knight, vice-president; Earl Littleton, secretary-treasurer; and John B. Wilbur and E. A. Dockstader, executive committee.

R. W. Diamond was awarded the Julian C. Smith medal of the Engineering Institute of Canada for "achievement in the development of Canada." He is vice-president and general manager of the Consolidated Mining and Smelting Co. of Canada Ltd., of Trail, B. C.

Carl W. Brown, chief engineer of Missouri, has succeeded to the presidency of the American Association of State Highway Officials, filling the vacancy created by the resignation of Wesley W. Polk of Illinois. Mr. Brown was first vice-president.

New officers of the Society of Construction Superintendents, Inc., 14 W. 19th St., New York 11, N. Y. are President, Dave Feiler; vice-president, Henry Wunderlich; secretary Sidney Millsten; sergeant at arms, William Perlman; trustees, A. B. Fleck, Geo. Martin, Ben Grene and Louis Sachs.

MAJOR MEETINGS

American Society of Civil Engineers, Biltmore Hotel, Oklahoma City, Okla., April 20-23.

American Geophysical Union, U. S. National Museum and National Academy of Sciences Auditorium, Washington, D. C., April 20-22.

American Wood Preservers' Association, Jefferson Hotel, St. Louis, Mo., April 26-28.

First International Civil Engineering Congress, Mexico City, Mexico, April 30-May 7.

American Road Builders' Assn., Southeastern States Conference, General Oglethorpe Hotel, Savannah, Ga., May 11-13.

Society for Experimental Stress Analysis, Hotel Statler, Detroit, Mich., May 19-21.

American Water Works Association, Stevens Hotel, Chicago, Ill., May 30-June 3.

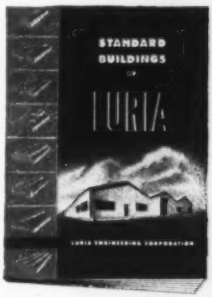
Don't let high building costs force you to compromise with quality:

maybe you can afford a

better building

than you think

...and get it faster, too!



For the complete story, write Dept. E11 for your copy of this new 20-page catalog today

IF YOU COULD get a *permanent* building for little or no more than the cost of light-weight, "temporary" construction—wouldn't you consider it a better investment for your building dollar? You *can*—in Standard Buildings by Luria. For Luria Buildings are heavy steel-frame structures that offer you all the *advantages* of standardization, without the usual limitations.

Moreover, Luria Buildings can be easily adapted to meet your precise requirements—for anything from a warehouse to a heavy industrial plant; from a school to a shopping center. And they're *available now*—with clear spans of 40 to 100 feet, eave heights of 12 to 20 feet and lengths in increments of 20 feet.

Before you decide on any building, be sure to get all the facts on the complete Luria line.

Standard Buildings by LURIA

LURIA ENGINEERING CORPORATION
500 FIFTH AVE., NEW YORK 18, N.Y.

Offices in: Atlanta, Boston, Chicago, Philadelphia, Pittsburgh, and Washington, D.C.

ENGINEERING SCHOOLS

William L. Everitt, who on Sept. 1 becomes dean of the college of engineering at the University of Illinois.

Faculty News

Engineering faculty changes at the University of Illinois are as follows: Melvin L. Enger, professor of hydraulics and dean of the college of engineering, will retire next Sept. 1, to be succeeded as dean by Wm. L. Everitt. Wilbur M. Wilson, professor of structural engineering and on the engineering faculty for the last 35 years also will retire on that date. Abel Wolman, of Johns Hopkins University, has been appointed a lecture and research consultant in sanitary engineering. Robert A. Hichtman, special research engineer in civil engineering, will become associate professor of structural research and instructor in graduate work in civil engineering at the University of Washington, Seattle, Wash.

Alphonse Brichmaier, former associate professor of civil engineering at Pennsylvania State College, has been named professor of civil engineering at the engineering school of Washington University, St. Louis, Mo.

In the civil engineering department of the University of Colorado, Assistant Professor Marvin L. Mass has replaced Associate Professor Lee Crandall, who has gone to the University of Wisconsin. Dr. Chu-Kai Wang will teach classes in applied mathematics and civil engineering. The enrollment in the college of engineering is now 2,450.

Joseph W. Bennett has been appointed assistant professor in the department of engineering drawing and mechanics at the University of Alabama college of engineering. He is a graduate of the University of Michigan, and at one time was design and production engineer for the American Seating Company.

Donald J. Hebert, head of basic hydraulic research with the Bureau of Reclamation, Denver, Colo., has been appointed associate professor of civil engineering at Columbia University. Professor Hebert will conduct experimental apparatus and research studies in addition to teaching undergraduate and graduate courses on hydraulics. He was graduated from the University of Michigan in 1932 and received his master's degree there the following year. Since 1933 he has been with the Bureau of Reclamation.

Educational Notes

For the Berkeley campus of the University of California the state public works board has approved the expenditure of $1,900,000 for an engineering department building.

In his recent annual report, Dean James K. Finch of Columbia University's school of engineering said that the school must plan to reduce its enrollment if it is to make its best contribution to American engineering education. The school which now has 948 students, reached a postwar peak enrollment of nearly 1,100. Dean Finch believes that it should be between 600 and 800.

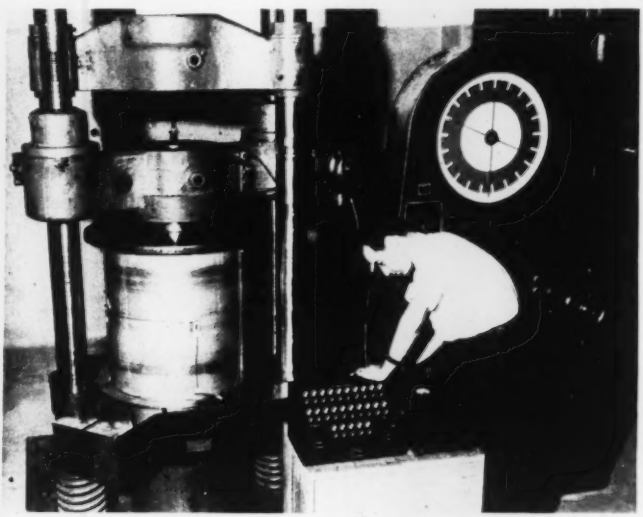
By a gift from one of its trustees the endowment fund of Worcester Polytechnic Institute, Worcester, Mass., has been raised to $1,100,559.

The civil engineering department of South Dakota State College, in cooperation with the State Highway Department, the Public Roads Administration, and the Association of County Highway Officials, is sponsoring a highway short course to be held in Brookings April 12 and 13.

Architects Simon and Boulare of Philadelphia are working on a large building program for the Drexel Institute of Technology.

On March 15 University of Wisconsin's college of engineering celebrated "Engineers' Day" as part of its centennial year. The laboratories, buildings, classrooms and offices were open to guests the whole day.

Enrollment for the spring semester at Illinois Institute of Technology totals 7,256.



SANDWICH CONSTRUCTION RESEARCH—This 200,000-lb. testing machine was put to work recently in the college of engineering, New York University, on research tests sponsored by the Office of Naval Research, involving construction of the "sandwich" type. In the picture a graduate student is arranging wires connected to strain gages on the large cylinder, which later will be stressed gradually to the buckling point. Readings of strains are recorded. This project under the direction of George Gerard is to develop design formulae for sandwich panels consisting of two metal faces separated by a low density plastic core.

...proceed at your own risk

Take a long farewell look at this picture. It's a scene that's getting rarer all the time. The reason: Industry, public utilities and farmers are avoiding the risk of heavy capital losses by chemically protecting wood against rot and decay. They are using solutions of pentachlorophenol—Monsanto's Santophen 20—to give all kinds of structural wood a much longer and more useful life.

Santophen 20 is one of the most effective wood preservatives known. It has unusually high toxic value that is always constant. One of its chief advantages—its protective power is chemically determined and can therefore be exactly duplicated every time.

Santophen 20 is not water soluble. It doesn't "bleed" or evaporate, regardless of climate or weather conditions. It stays in the treated wood and thus assures continuous protection against all forms of decay and insect attack.

Wood is too good to waste. Don't take risks with its recognized value. Write Monsanto for further information as to how you can protect your investments in this versatile structural material—or, mail the coupon if it's more convenient.

MONSANTO CHEMICAL COMPANY
St. Louis 4

IT'S A ROTTEN SHAME—*To use any kind of structural wood without proper preservative protection represents a staggering potential waste of one of this country's traditional building materials. Use Santophen 20—protect wood and safeguard your investment for years to come.* Santophen: Reg. U. S. Pat. Off.

MONSANTO
CHEMICALS—PLASTICS

MONSANTO CHEMICAL COMPANY EN-6
1700 South Second Street
St. Louis 4, Missouri

Tell me more about Santophen 20 for protecting _____

_____

Name _____ Title _____

Company _____

Address _____

City _____ State _____

SERVING INDUSTRY...WHICH SERVES MANKIND

NEW PRODUCTS

For Bottom Dump Hauling

Among the new tools added to its line of earthmoving and materials handling equipment this well known manufacturer announces the E-35 Tournahopper for bottom dump hauling. It is a 27-yd. or 35-ton capacity unit which will travel at speeds up to 30 mph. It is powered by a 240-hp., two-wheel prime mover, and has multiple-disc 4-wheel air brakes. The big 10-ft. by 10-ft. bowl presents an easy target for the shovel or dragline operator to hit and fill, and enables fast loading. With positive electric power steer, enabling it to make a 90° turn, it is very maneuverable. When loaded, the Tournahopper has 51% of its weight on the drive tires to give extra traction on grades and in tough going. Its 240 hp. engine, plus 30 by 33 (or 24 by 29) tapered bead tires, and a power proportioning differential which automatically channels power to the wheel on firmest footing, help take it through soft fills or haul roads. The bottom dump doors operate like a clamshell, swinging upward along the outside of the bowl as they open. Positive electric control of the self-cleaning doors permits controlled ejection by opening the doors to any desired width, or the doors can be opened completely.—R. G. LE TOURNEAU, INC., PEORIA, ILL.

Portable Conveyor

Here is a portable conveyor with an hydraulic hoist which easily lifts the conveyor as high as 21 deg. in 10 min. and enables lowering to traveling position in one minute. Available in length of any multiple of 4 ft., with a minimum of 32 ft. and a maximum of 52 ft. in the channel frame, and of 60 ft. in the lattice frame. Available in 18, 24 and 30-in. widths. It has anti-friction bearings throughout. May be driven from gas, diesel or electric power. One man can lift conveyor to truck hitch. Illustrated is a 52-ft. 24-in. lattice frame conveyor with power and hydraulic hoist truck.—UNIVERSAL ENGINEERING CORP., CEDAR RAPIDS, IOWA.

Concrete Wall Finish

Special powder is mixed with water before application to exterior and interior concrete walls, newly poured or old. Applied with a cork float, product produces a smooth coat forming waterproofed surface. The speed finish was developed to meet objections to the impairment of the face of concrete walls which develops when a so-called rubbed finish is used.—IRVINGTON FORM & TANK CORP., IRVINGTON, N. Y.

Mixer With Power Loader

New 3½-S end discharge, non-tilting mixer is equipped with power loader and automatic water-measuring tank. Large skip has wide throat to permit fast, clean discharge into mixer drum when loader is raised. Wheelbarrows may be dumped directly into loading skip, eliminating necessity of high shoveling into batch hopper. Machine is mounted on pneumatic-tired disc wheels, equipped with Timken bearings.—MUELLER MACHINERY CO., INC., METUCHEN, N. J.

New Type of Gasket

Made of electrically annealed steel with aluminum-fused-oxide finish, the new gasket is designed to withstand pressures in the new higher compression motors. Steel is tempered to provide compressibility and resiliency that insures perfect seal and is then electrically coated with aluminum-fused-oxide to be rust-proof and easy to remove.—FITZGERALD MFG. CO., TORRINGTON, CONN.

Scraper

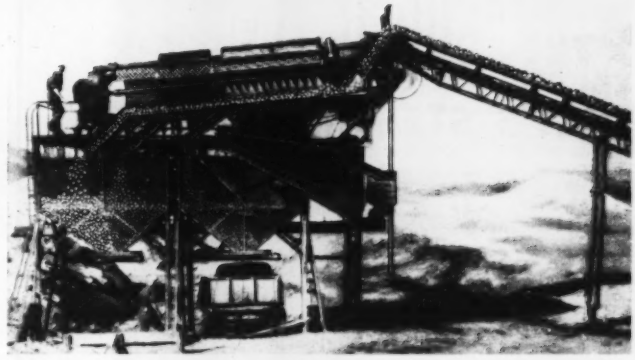
In the new Heilinerscraper horsepower of diesel power plant has been stepped up from 150 to 200 hp. Now available with top speeds of 25 and 30 m.p.h. As added safety feature the fifth wheel spindle has been equipped with positive mechanical stops to prevent over-steering. Capable of picking up 16-ton loads and moving under positive control of patented hydro-steer.—HEIL CO., MILWAUKEE 1, WIS.

Unit Heaters

The most outstanding feature of this new line of unit heaters is the heating coil which boosts efficiency and at the same time cuts operating costs. It is constructed of one-row finned coils of continuous U-bend copper tubing brazed into steel headers. Deeper and wider fin spacing minimizes resistance to air flow and facilitates cleaning. The deep fins give better heat transfer. The light weight and simple design make the suspended unit easy to install. Service is simple. The coil can be completely cleaned in a matter of a few minutes. The whole unit can be disassembled by the removal of only four bolts and four screws.—CARRIER CORP., SYRACUSE, N. Y.

Welding Control

DV automatic start-stop control for electric driven d-c welders enables operator to start welder instantly by merely "striking an arc", without having to leave work or push buttons. Control shuts off welder after 2 minutes (adjustable) of no-welding. Running time of welder is frequently cut in half, thus effecting changes in equipment wear and maintenance costs. In most instances power savings exceed full cost of DV Control in first year of use. Overloads are reduced, power factor is improved, and both the kw. demand and kwh. energy consumption are lowered. Newest model of DV Control incorporates several improvements over previous models, many of which have been in service for over five years. All-metal clutch design and steel frame provide greater uniformity and longer life under adverse conditions of use—DV Welding Controls, Oakland 11, Calif.



Aggregate Washing Plant

A number of claims are made for this re-designed 305-W aggregate washing plant, among them: makes three sizes of rock and two of sand; scrubs as it cleans as it washes; produces 50 to 75 yd. an hour; uses only 300 to 500 gal. of water per minute; and requires only 35 hp. to operate.—Pioneer Engineering Works, Inc., Minneapolis 13, Minn.

Trenching Machine

This new trencher cuts clean trenches in soils of all types, with its cast steel digging buckets. It has adjustable clearance teeth and digs from 12 in. to 18 in. in width. It is possible to dig an additional width trench by extending the wheel width of the Ferguson Tractor. This new trencher can be set to cut any distance down to 42 in. deep, and it travels from 1¼ to 5 feet a minute, depending upon the depth and width of cut and type of soil. It is claimed that the machine will equal the pick and shovel work of 25 men, and that it is expressly suited for digging housing project foundations, as well as for waterline and drainage trenching.—Everett Mfg. Co., Inc., Phoenix, Ariz.

New Protective Coating

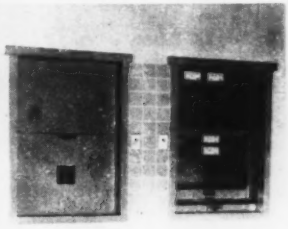
The base of this product is a specially processed synthetic rubber, compounded with fine mineral particles and plastic resins. The manufacturer asserts that in a recent comparative abrasion test of Lithogen against four of the highest priced and most widely distributed floor and deck enamels it was proved that on the Tabor Abrader, the standard machine used by the U. S. Bureau of Standards and all leading laboratories, Lithogen offered thirty times greater resistance to wear. These were all oil base floor enamels. The same comparative tests were made with rubber base floor coatings and it was found that Lithogen was ten times as good as some and six times as good as the best one tested. Lithogen will be marketed in three formulations—each for definite types of application. Lithogen (smooth finish) for walls and ceilings; for exterior or interior surfaces of wood, metal, all types of masonry, composition boards and asbestos siding; Lithogen (granular finish) for use on all the above mentioned surfaces (exterior or interior), wherever a textured, fine stucco-like finish is desired; and Lithogen floor enamel—for floors of wood, metal, concrete, composition board exterior or interior. Designed for surfaces which are usually subjected to heavy traffic.—Milton P. Schreyer, Lithogen Corp., 10 East 40th St., New York City.

Joining Thin Aluminum

A new development called Eutectrod 900X, joins thin aluminum at temperatures below the melting point of aluminum with greater fluidity than can be attained by aluminum brazing.—Eutectic Welding Alloys Corp., 40 Worth St., New York 13, N. Y.

Crane and Hoist Scale

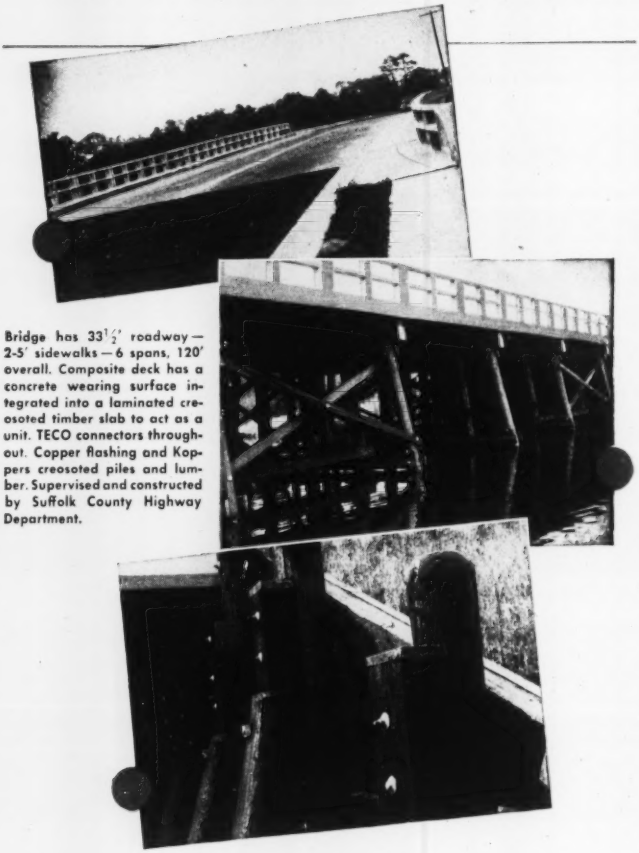
A new basic method of weighing that includes no springs or levers but involves the static pressure principle is announced. It is first applied to a scale for cranes and chain hoists . . . two, five and ten-ton models standard and will be identified as "Hydroscale." Permanently sealed, without moving parts, unaffected by temperature, independently laboratory tested, it is accurate within one half of one percent. It automatically scales as the load is lifted which makes accurate weighing easy where before it has been thought that this was impracticable in ordinary cases.—Hydroway Scales, Inc., 7632 Fenkell, Detroit 21, Mich.



Dumb Waiter Doors

Dumb waiter doors of durable steel for use with electric or hand power dumb waiters—or for protecting the landing openings of conveyors, chutes, and other types of floor-to-floor transportation equipment, are offered. Available with approved underwriters' label where required, they are finished in appearance, easy of operation, durable and come in four general types, including bi-parting, slide-up, slide-down and hinged. Doors and frames are completely factory-assembled units. So this makes it convenient for setting in place as hoistway walls are built.—Sedgwick Machine Works, 170 W. 15th St., New York 11, N. Y.

THE "SUPPORTING" ROLE THAT'S STEALING THE SHOW



Bridge has 33½' roadway—2-5' sidewalks—6 spans, 120' overall. Composite deck has a concrete wearing surface integrated into a laminated creosoted timber slab to act as a unit. TECO connectors throughout. Copper flashing and Koppers creosoted piles and lumber. Supervised and constructed by Suffolk County Highway Department.

● Along with the nation's steadily increasing amount of transportation comes ever increasing praise, for Koppers Pressure-Creosoting.

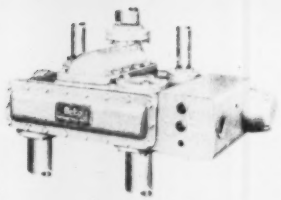
Its performance on piles, decks, posts, and guard rails has led highway engineers across the nation to report that "Koppers Pressure-Creosoting does the job."

By "doing the job" they mean stretching construction budgets. Slashing maintenance costs. Making structural changes easy. Permitting re-use of valuable, expensive members. Providing strength and durability under impact. And its resistance to decay has been proved by performance; many pressure-creosoted bridges, for example, have been in service over a third of a century.

Yes, *Koppers Pressure-Creosoting does the job*—does it *dependably . . . economically . . . permanently.*

KOPPERS PRESSURE-TREATED WOOD

KOPPERS COMPANY, INC., Pittsburgh 19, Pa.



Multiport Valve

Of interest to those having to do with water purification is a newly developed multiport valve—a unit which is suitable for remodeling old softeners and filters as well as for new installations. It is claimed that it completely eliminates the rubbing rotor, high pressure loss and sticking plugs, and its operation is free from water hammer. The valve is leakproof and only one stuffing box is required. A single 1/20 hp. motor is required because water pressure helps to open its cam-operated poppet system.—Belco Industrial Equipment Division, Inc., 42 Iowa Ave., Paterson 3, N. J.

Small Mobile Crane

Mounted on a Minneapolis-Moline tractor, Clyde Handi-Crane has lifting capacity of 4 tons and revolves through 320 deg. so that loads can be picked up, carried or spotted on either side. All-steel welded boom is raised and lowered by means of a hydraulic cylinder. Operator's seat is offset to provide full visibility. Overall length of machine is 11 ft. 3 in., wheelbase, 75½ in. and overall height on pneumatic rear tires, including gantry construction, is 125 in. All-steel welded boom is 18 ft. long. Operating weight is 19,250 lb.—Clyde Iron Works, Inc., Duluth 1, Minn.

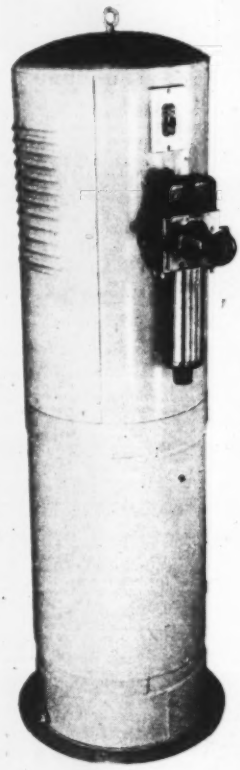
Grid Roller

For heavy-duty compaction of fills, subgrades, and stabilized base courses, this new roller compacts from bottom to top without leaving a loose surface layer, and depresses or pulverizes oversize stones. Avoids lateral displacement during rolling. Offered as 5-ft. width tow units for use singly or in multiple combinations, or as an 8 mph. self-propelled assembly 10 ft. wide, as illustrated. Device for varying applied

pressure optional.—GARDNER-BYRNE CONSTRUCTION CO., INC., 649 S. OLIVE ST., LOS ANGELES 14, CALIF.

Soldering Iron

Heated by cartridge—requiring no electric current or external heat of any kind—new Quick-Shot soldering iron utilizes a chemical cartridge that heats the iron to working temperatures in 5 sec. and maintains intense heat for 10 min. Cartridge contains chemical mixture of metal powders and oxidizing agent. It is ignited by pointed spring rod which when pulled and released strikes primer to start heating action. Cartridge is non-explosive. A new cartridge is used each time the iron is operated.—KEMODE MFG. CO., 2 West 46th St., New York 19, N. Y.



Cement Aerator

A compact cement aerator which promises full control of the flow and handling of bulk cement under all conditions has been announced. Complete controls direct air automatically under adjustable pressures to the air jet lines. A dual pressure take-off provides extra air for pumping tires, cleaning equipment or operating air cylinders. Two models have 60-gal. tanks.—BUTLER BIN CO., WAUKESHA, WIS.

Manufacturers' Publications

Garden Tractors—(8-p. folder) describes and pictures small two-wheel garden tractor in two models, Model F, 4½ hp., and Model D, 1½ hp. Lists a wide range of attachments including lawn-mower, snowplow, sickle bar disc harrow and adjustable cultivator. Shipping weights of the two models are, respectively, 315 lb. and 175 lb. Tractors ride on rubber-tired wheels.—VICKERS, INC., EAST AURORA ST., WATERBURY 91, CONN.

Portable Air Compressor—(8-p. bulletin) describes PacAir two-cylinder single-stage compressor mounted on two rubber-tired wheels and driven by 9-hp. air-cooled gasoline engine. The machine is equipped with a quick-detachable hitch for towing behind truck or tractor. Compressor is 2-cylinder, single-stage unit, with piston displacement of 37.5 cfm. at 80 psi. pressure.—INGERSOLL-RAND CO., PHILLIPSBURG, N. J.

Rubber Tires—(63-p. booklet) titled "The Story of the Tire," this publication presents a brief history of the development and manufacture of automobile tires by Goodyear. Chapters cover such subjects as the growing of natural rubber, synthetic rubber development, producing tire fabrics, manufacturing automobile tires, inner tube production, tire development, research and marketing tires.—GOODYEAR TIRE & RUBBER CO., AKRON 16, OHIO.

Contractors' Centrifugal Pumps—(16-p. bulletin) Describes self-priming feature of line of contractors centrifugal pumps, ranging in sizes from 2 in. to 8 in. Gives specifications and ratings, together with information on how to select the correct size of pump, including tables to assist in figuring pumping requirements.—GORMAN-RUPP CO., MANSFIELD, OHIO.

Steel Forms for Concrete—(28-p. booklet) Describes and illustrates the use of Atlas steel forms for walls, floors, columns, dams, manholes, and circular tanks. Includes instructions.—IRVINGTON FORM & TANK CORP., 43 CEDAR ST., NEW YORK 5, N. Y.

Liquid Preservative—(Folder) Tells about Rot-Stop, applied by brushing, spraying or dipping to preserve and protect wood, rope and canvas.—ROCKFORD PAINT MFG. CO., ROCKFORD, ILL.

Pumped Concrete Practice—(193-p. booklet) Entitled "Pumperete Practice", this publication constitutes a manual of pipe line concreting methods. The publication is divided into two sections, the first giving general information on the Rex Pumperete piston pump, distributing methods, placing costs, mixing plant set-up, concrete data and Pumperete data. The second section illustrates and describes typical jobs on which pumped concrete was used. These include bridges, viaducts, buildings, water works and sewage-treatment plants, locks and dams, and miscellaneous structures.—CHAIN BELT CO., MILWAUKEE, WIS.

Steel Buildings—(32-p. catalog) Describes many types and applications of buildings assembled from standardized, mass-produced special deep-ribbed parts. Specifications and construction features of self-supporting, rigid frame and mill types.—INTERNATIONAL DERRICK & EQUIPMENT CO., 1315 PACIFIC ST., DALLAS, TEX.

Portable Asphalt Plant—(12-p. bulletin) Describes new 1,000-lb. portable batch-mix asphalt plant, with complete erection and operating data. Two pages are devoted to recommended accessories including counter-flow dryer, pressure-feeder fuel oil set, portable feed bunder, steam generator and tank unit, asphalt storage tank, dust collector and gob boxes for storing mixed materials.—MADSEN IRON WORKS, INC., HUNTINGTON PARK, CALIF.

Explosives Products—(64-p. booklet) Deals with industrial and mining explosives and includes catalog of company's explosives and their specifications and qualities, and recommended use. Also contains useful information on wire resistance and distance tables, comparisons of weight, strength and density, burden or bore holes, suggestions for using electric blasting caps, calculations for field use, and a list of 63 safety and handling "Don'ts".—OLIN INDUSTRIES, INC., EAST ALTON, ILL.

Cold Finished Steel Bars—An 8-page bulletin on cold finished steel bars contains a description of the finishing processes, guide to selection, AISI and SAE standard steel compositions, table of average mechanical properties, and a condensed listing of the analyses, finishes and shapes carried in stock.—JOSEPH T. RYERSON & SON, INC., Chicago 80, Ill.

CONSTRUCTION REPORTS

Bids Asked—Low Bidders—Contracts Awarded—First Section

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.

ELSIE EAVES, Manager — *J. A. MAHONEY, Reports* — *M. R. ROESSLER, Statistics*

WATER SUPPLY

BIDS ASKED

March 28

Ont., Merrickville—F. Lannin, reeve, WW reservoir and pump station, for Municipality. Plans deposit $10. Gore & Storrie, 1130 Bay St., Toronto, engrs.

March 29

Md., Annapolis — Anne Arundel Sanitary Comn., 300 Baltimore and Annapolis Blvd., Glenburnie, 16,425 lin. ft. 2- to 12-in. c. i. watermains, fittings, valves, fire hydrants, appurtenances, incl. excav., refill and miscellaneous items. Contr. 19 W. Plans deposit $10.

LOW BIDDERS

Ark., Van Buren—City, Mar. 8, 2 concrete reservoirs from Davidson-Steele, Ft. Smith, **$75,617.** CD 2/16—ENR 2/24.

Ill., Albion—City, City Hall, Feb. 25, water and sewage treatment plant imprvs., appurtenances, from H. A. Grabbe Constr. Co., Alton, **$108,935.** CD 2/17.

Ill., Marissa—Village Bd. Trustees, Village Hall, Mar. 8, water treatment plant, from T. & S. Constr. Co., Centralia, **$38,602.** CD 2/17—ENR 2/24.

Md., Towson—Comrs. Baltimore Co., Towson, Mar. 7, Colgate Water Pump Station, appurtenances. Contr. 151 W. from Diesel Engine & Pump Co., Inc., 105 S. Calvert St., **$51,841.** CD 2/17—ENR 2/24.

CONTRACTS AWARDED

Ill., Joliet—State Dpt. P., Safety, Armory Bldg., Springfield, deep well at Statesville Prison, to J. P. Miller Artesian Well Co., Brookfield, **$29,830.** Awarded 3/4. C. Herrick Hammond, State Armory, Springfield, archt. CD 2/14 45—ENR 3/3/45, under Ill., Statesville.

Kan., Manhattan—City, City Hall, treatment plant addn., to O. D. Milligan Constr. Co., 1715 Laramie St., **$197,000.** Bids 3/1. CD 2/8—ENR 2/10.

Tex., Aransas Pass—Mustang Island Utilities Co., Aransas Pass, WW sys. extens., imprvs., own forces, **$65,000.**

Tex., Houston—Rest Home Builders, Inc., c/o J. E. Leicher, 3255 Rosedale St., WW, own forces. Approx. **$50,000.** Ryburn C. Shaner, 4019 River Dr., engr.

Wis., Milwaukee—City, City Hall, layng watermains in W. Wisconsin Ave. to Tomaro, Carle & Tomasini, 3317 S. Lake Dr., Cudahy, **$76,497.** Bids 3/7. J. P. Schwada, city engr.

Alta., Red Deer—Municipality, watermain extens., replacements, own forces, **$50,000.** A. R. Samuel, Red Deer, engr. CD 7/30/45—ENR 8/9/45.

Sask., Saskatoon—Municipality, water installations, 5 city blocks, own forces, **$45,000.** H. Melvor Weir, city engr. CD 7/20/45—ENR 8/2/45.

SEWERS, WASTE DISPOSAL

BIDS ASKED

March 28

N. Y., New York—President Manhattan Boro, Municipal Bldg., Zone 7, reconstructing sewers in Amsterdam Ave., W. 72 to W. 75 Sts., W. 75 St., Amsterdam to Columbus Aves., Columbus Ave., W. 75 to W. 77 Sts., W. 77 St., Columbus Ave to Central Park West. Contr. 81. Plans deposit $20. Extended date. CD 2/24—ENR 2/3.

March 29

B. C. Vancouver—J. L. Adams, engr., 360 Homer St., installing 12 mi. vit. clay and concrete sewerage sys., Fraser View housing development, for Central Mortgage & Housing Corp., 380 Homer St. Plans deposit $25.

March 31

Tex., Friona—City, Mack Banum, mayor, sanitary sewerage sys., sewage treatment plant, $100,000. Plans deposit $25. Freese & Nichols, 407 Dancigar Bldg., Fort Worth, consult. engrs. CD 12/3—ENR 12/9.

LOW BIDDERS

Calif., Larkspur—City, City Hall, Mar. 5, sewer overflow and pump plant, from Baldwin & Straub, Inc., 26 Fran Anco Blvd., San Rafael, **$125,996.** CD 2/14—ENR 2/24.

Calif., Stockton—Pacific Gardens Sanitary Dist., c/o Bd. Supervs., San Joaquin Co., Courthouse, Mar. 5, sanitary sewers, sewage pumping plant, from Associated Electrical & Mechanical Co., 223 Clara St., San Francisco, **$117,700.** CD 2/17—ENR 2/24.

Mass., New Bedford—City, Mayors Office, City Hall, Mar. 10, intercepting sewers addn., and 2 sewage pump stations, from Theodore Loranger & Sons, and A. Pastelli, 404 Nash Rd., **$938,097.** CD 2/14—ENR 2/24.

N. M., Albuquerque—City, c/o Mayor, Albuquerque, sewage disposal plant, from Allison & Haney, Albuquerque, **$172,099.** Est. $150,000. Hasie & Green, Lubbock, Tex., engrs. CD 1/10/45—ENR 1/24/45.

N. Y., Amherst—Town, Town Hall, Main St., Williamsville, sewage treatment plant, from Riefler Bros. & Bennett, Inc., 506 Morgan Bldg., Buffalo, **$607,900.** CD 12/22—ENR 12/30, under LB.

CONTRACTS AWARDED

Ga., Augusta—City, c/o John D. Twiggs, city engr., Augusta, 4 storm sewer projects, to William L. Rice & Co., Augusta, **$60,400.** Bids 3/1—CD 2/24—ENR 3/3.

La., Bogalusa — City, City Hall, sanitary sewer lines, to R. P. Farnsworth & Co., 1515 S. Salcedo St., New Orleans, **$154,009.** Bids 3/8. CD 3/16, under LB.

La., Bogalusa—City, City Hall, sanitary sewer lines, to W. D. Owens Constr. Co., Clearwater, Fla., **$152,394.** Bids 3/12. CD 7/21/44—ENR 8/10/44.

Tex., Houston—Rest Home Builders, Inc., c/o J. E. Leicher & Assoc., 3255 Rosedale St., sanitary sewers, **$60,000;** storm sewers, **$55,000,** own forces. Ryburn C. Shaner, 4019 River Dr., engr.

Que., Sillery—Municipality, drainage work, own forces, **$130,000** voted.

BRIDGES

LOW BIDDERS

Connecticut—State Hy. Dpt., G. Albert Hill, comr., Hartford, Mar. 14, wid'n Stone Arch Bridge, rein.-con. deck New Canaan Ave Bridge over Norwalk River, Norwalk, from **Mariani** Constr. Co., 222 Forbes Ave., New Haven, **$72,704.** CD 3/9.

Kentucky—State Hy. Dpt., Frankfort, rejected bids Oct. 22, bridge substructure and grading, draining 4.787 mi. approaches over South Fork Cumberland River, Monticello-Burnside Road, L. B. **$195,856;** superstructure, L. B. **$463,979.** CD 10/28—ENR 11/4, under LB.

Louisiana — State Hy. Dpt., Baton Rouge, Mar. 9, Natalbany River Bridge, approaches and Natalbany River Bridges, rein.-con. deck girder, each seven 40 ft. spans on rein.-con. piling, 1 multiple span rein.-con. box culvert, c. conc. paving, 1.175 mi., Little Baton Rouge-Hammond Hy., State Rt. 7, S. P. 13-07-07 and 13-08-05, Livingston and Tangipahoa Parishes, from W. E. Schofield, Hattiesburg, Miss., **$353,016.** CD 2/2—ENR 2/10.

Maryland — State Hy. Dpt., Baltimore, Mar. 8, steel beam, concrete bridge over Watts Creek, on relocation State Rt. 213, approx. 2 mi. south of Perryman, Contr. C. 270-2-215, Caroline Co., from Baltimore Contractors, Inc., 711 S. Central Ave., Baltimore, **$102,139.** CD 2/23—ENR 3/3.

PROJECTS COVERED

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger: water supply, earthwork, waterways $25,000; other public works $50,000; industrial buildings $68,000; other buildings $250,000.

Classes of Construction

(Name in order of Listing)

Water Supply	Latin America
Sewers, Waste Disposal	Public Buildings
Bridges	Commercial Buildings
Streets & Roads	Industrial Buildings
Earthwork Waterways	

Unclassified

Stages Reported

PROPOSED WORK. Including appointment of engineers or architects.

BIDS ASKED. (new announcements only). For full calendar, see also preceding issues of ENR.

LOW BIDDERS. On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.

CONTRACTS AWARDED. Except awards to low bidders previously reported in low bidder stages.

Dates shown are of issue in which last previous report was published.

Symbols and Abbreviations Include:

✦	Federal Government
●	Project of $1,000,000 or over.
ENR	Engineering News-Record
CD	Engineering News-Record Construction Daily

CONTRACTS AWARDED

Arkansas — State Hy. Dpt., Little Rock, 3 bridges on Hy. 79, Hughes, Lee Co. and 4 bridges on Hy. 70, Hunmoke, Lonoke Co., to S. M. Dixon, Warren, **$159,419** and **$193,892** respectively***4 bridges on Hy. 56, Calico Rock, Izard Co., to Forsgren Brothers Ft. Smith, **$133,019***5 bridges on Hy. 8, Mena, Polk Co., to Reynolds & Williams, Tyler, Tex., **$112,995***3 bridges on Hy. 23, Waldron, Scott and Logan Counties, to E. E. Barber Constr. Co., Ft. Smith, **$121,357.** Grand total $750,682. Bids 3/11, awarded 3/12. CD 3/2.

Oklahoma — State Hy. Dpt., Oklahoma City, bank protection and timber trestle bridge over North Canadian River on farm to market road at Greenfield, Blaine Co., to Frost Constr. Co., Hydro, **$60,318.** Est. $56,000***erect 2 steel truss bridges with concrete floors over Mountain Fork River on U. S. 70 east of Broken Bow, McCurtain Co., to Oklahoma Paving Co., 4131 N. Portland St., Oklahoma City, **$167,854** est. $183,350. Bids 3/8, awarded 3/9. CD 3/2.

Wis., Holcombe — Northern States Power Co., 2 S. Barstow St., Eau Claire, 860 ft. steel bridge over Chippewa River in Hy. M, to L. G. Arnold, Inc., 201½ N. Dewey St., Eau Claire, **$306,800.**

STREETS AND ROADS

BIDS ASKED

April 5

Miss., Columbus—City, c/o T. W. Lewis, Jr., secy. and treas., Columbus, street imprvs.

Beaumont — City, Otho Plummer, mayor, City Hall, asph. 3.67 mi. Kenneth Ave., Highland Dr., East Lavaca, Franklin and Lucas Dr. $175,000. Plans deposit $25. C. F. Teller, 1841 W. Main St., Houston, consult. engr. Clyde Black, city engr. CD 2/11—ENR 3/3.

April 12

Puerto Rico, Rio Piedras—Bd. Awards, 1 st Interior, 226 Ponce de Leon Ave., Santurce, c. conc. and appurtenant works 4.12 kms. Rio Piedras-La Muda Rd. Prod. F-28 (2). Plans deposit $20. CD 9/24/45—ENR 10/4/45.

LOW BIDDERS

California—State Div. Hys., Sacramento, wid'n portions by scarifying and reshaping shoulders and place crusher run base and plant mix surf. portions 5.4 mi. pavement and shoulders between Alvarado and San Leandro, Alameda Co., from Clements & Co., Box 277, Hayward, **$157,725***reconstr. shoulders, place crusher run base, dense-graded open graded plant mix surf. on Foothill Blvd. between Castro Valley Junction and San Leandro, Alameda Co., from Lee J. Immel, 3030 San Pablo Ave., San Pablo, **$238,865***plant mix surf. 2.6 mi. to 10.4 mi. north of ●Wk. Humboldt Co., from Mercer-Fraser Co., 2 and Commercial Sts., Eureka, **$102,187***plant mix resurf. 7.6 mi. Kelso-Shaw Rd. and Shawdo, Kern Co., from Peter Kiewit Sons Co., 345 Kiewit Ave., Arcadia, **$103,700***imported base material and seal coat 1.48 mi. portions hy. between 1.3 mi. and 5.9 mi. north of Putah Creek, Lake Co., from Chittenden Bros., Box 246, Auburn **$137,904***place untreated rock base and plant mix surface, 8.3 mi. between southerly boundary and junction with Route 5 San Joaquin Co., from M. J. Ruddy & Son, 922 J St., Modesto, **$117,545***plant mix surface, 5.8 mi. between Route 134 and Peck-wood Creek, Tulare Co., from Valley Paving & Constr. Co., Box 1349, Fresno, **$53,195.** CD 2/14—ENR 2/17.

Calif., Oakland—Alameda Co., Courthouse, Mar. 1, imprv. Meekland Ave. from Lewelling Blvd. to A St. from Lee J. Immel, 3030 San Pablo, **$113,867.** CD 2/15—ENR 2/17.

Calif., Oakland—Alameda Co., Courthouse, Mar. 10, imprv. Lake Chabot Rd. in Castro Valley, Williams St. to Carston Ave., from Brown & Krull, 1057 Cotter Way, Palo Alto, **$81,394.** CD 3/2.

Colorado—State Hy. Dpt., 518 State Office Bldg., Denver, Mar. 2, grading, surf. structure 1.557 mi. on State Hy. 86 between Kiowa and Elizabeth S-092B-(1), Elbert Co., from Henry Shore 510 S. Windemiere Ave., Littleton, **$70,631;** grading, surf. minor structures 2.081 mi. north of Ft. Collins on State Hy. 125, F-004-1 (5), Larimer Co., from Schmidt Paving Co., P. O. Box 66, Grand Junction, **$116,264.** CD 2/23.

Ind., Evansville—Bd. P. Wks., City Hall, rejected bids Mar. 1, asph. surf. various streets, **$350,000.** CD 2/16—ENR 2/24.

Ind., Evansville—Bd. P. Wks., City Hall, rejected bids Feb. 18, paving E. Franklin St. CD 2/2—ENR 2/10.

●Kentucky—State Hy. Dpt., Frankfort, Mar. 14, Bd. 0.773 mi. Danville-Springfield Rd., U. 2206(8), S. P. 011-2206 (11-3001), Boyle Co., from R. K. Williams, 4141 Park Blvd., Louisville, **$94,817***traffic bound limestone 2.727 mi. Ida-Snow, Upchurch Rd., S. P. 1063-; SP 27-166(27-46), Clinton Co., and 2.95 mi.

Meta-Klupper Rd. S 20(1); SP 98-822, Pike Co., from Wood & Barton, 410 Ann St., Frankfort, **$58,274** and **$99,051** respectively***b. conc. 2.348 mi. Nicholasville-Lexington Rd., F 524(4); SP 34-124, Fayette Co., and bit. 5.309 mi. Nicholasville-Lexington Rd., F 524(6); SP 57-8, Jessamine Co., from Carey Constr. Co., 613 Citizens Bank Bldg., Lexington, and Lehman-Roberts Co., 615 Citizens Bank Bldg., Lexington, **$147,875** and **$238,282** respectively ***bit. 8.157 mi. Nicholasville-Lexington Rd., F 524(4)(5); SP (34-124)(57-8), Fayette and Jessamine Counties, from Breslin Constr. Co., 1801 S. Brook St., Louisville, **$365,520*****c. conc. 5.727 mi. Franklin-Tennessee State Line Rd., FI 239(4); SP 107-85, Simpson Co., from Ellis, Kelly Co., Owensboro, **$281,678.** CD 2/24—ENR 3/3.

Louisiana—State Hy. Dpt., Baton Rouge, Mar. 9, wid'n., c. conc. pavement, bit. mix surf. 6.71 mi. Sulphur-Westlake Hy. State Rt. 2, S. P. 3-04-20, F. A. P. F. 35 (16), Calcasieu Parish, from T. L. James & Co., Ruston, **$402,166.** CD 2/2. ENR 2/10.

Louisiana—State Hy. Dpt., Baton Rouge, Mar. 9, bit. surf. 4.67 mi., reinforced conc. deck girder bridges, timber trestle bridge repairs, De Ridder-Oberlin Hy., State Rt. 52, S. P. 28-04-06, Beauregard Parish. CD 2/9—ENR 2/17, and aggregate base course, bit. surf. treatment, 10.32 mi. reinforced deck girder bridges, Oakdale-Vidrine Hy., State Rt. 22, S. P. 66-06-07, Evangeline Parish. CD 2/23—ENR 2/24, from Catruth Constr. Co., Louisiana National Bank Bldg., Baton Rouge, **$311,398** and **$284,037** respectively ***soil cement or sand clay gravel or shell, b. conc. surf. tr. 3.999 mi. Cameron-Creole Hy., State Rts. 42 and 292, S. P. 193-01-09, F. A. S. P. S. 72 (1), Cameron Parish, from Stevens & Co. Inc., Whitney Bldg., New Orleans, **$168,298.** CD 2/2—ENR 2/10***bit. 4.77 mi. Burtville-Baton Rouge Hy. State Rt. 63, S. P. 257-03-08, East Baton Rouge Parish, from T. W. Kleinpeter & Co., 146 S. Foster St., Baton Rouge, **$74,848.** CD 2/9—ENR 2/17***grav. bit. 2.502 mi. Coleman-Mound Hy., State Rt. 1126, S. P. 182-03-01, F. A. S. P. 58 (1), Madison Parish, from Henry & Hall, Dubach, **$82,354.** CD 2/16—ENR 2/24.

Maryland—State Hy. Dpt., Baltimore, Mar. 8, c. conc. 6.65 mi. Wisconsin Ave., beginning at East West Bethesda, toward Rockville, Contr. M. 35-3-315, Montgomery Co., from Wilmoth Paving Co., 60 P St. S. E., Wash., D. C., **$339,499.** CD 3/2.

Tex., Canadian—City, Jess B. Lindley, mayor, Feb. 16, street improvs., asph. paving; 20,000 lin. ft. concrete curb and gutter; 36,000 sq. yd. grading and paving, etc. from Stuckey Constr. Co., Wichita Falls, **$68,000.** Est. **$75,000.** CD 1/31—ENR 2/3.

CONTRACTS AWARDED

Arkansas—State Hy. Dpt., Little Rock, bit. 6.13 mi. Hy. 165, Montrose, Ashley Co., and 9.5 mi. State Hy. 20, Marvell, Phillips Co., to Graves Brothers, Pine Bluff, **$239,346** and **$357,427** respectively***bit. 3.9 mi. State Hy. 76, Calico Rock, Izard Co., to Campbell Constr. Co., Inc., Wallace Bldg., Little Rock, **$148,795*****c. conc. 4.16 mi. State Hy. 63 in Hoxie, Lawrence Co., to Grady Garmes, 29 and Elm Sts., Little Rock, **$68,634*****bit. 4.3 mi. Hy. 7, Dover, Pope Co., to Reynolds & Williams, Tyler, Tex., **$168,241.** Grand total $382,452. Bids 3/11, awarded 3/11. CD 3/2.

Conn., Hartford—City Street Dpt., Municipal Bldg., 550 Main St., rebuilding approx. 6 mi., Fern, John, Cornwall, Lafayette, Westland and Mather Sts., etc., own forces, **$325,000.** H. Irving, Skilton City, engr. CD 3/14—ENR 3/11.

Kansas—State Hy. Dpt., Alma, c. conc. 6.236 mi. 99-99 F 426 (6), Pt. I, 4.3 mi. 99-99 F 426 (6), Pt. II, both Wabaunsee Co., to T. F. Marbut, Emporia, **$62,910** and **$117,982** respectively. CD 2/10—ENR 2/17.

Kan., Natoma—City, City Hall, street improvs., to A. F. Ross, National Bank of Topeka Bldg., Topeka, **$71,415.** Servix & Van Doren, Hays, engrs.

●**Oklahoma**—State Hy. Dpt., Oklahoma City, to Bruce Constr. Co., Woodward, traffic bound surf. 7.023 mi. farm to market road, Cimarron Co., **$56,100,** est $57,866; single bit. surf. course, 4.986 mi. State Hy. 3, east and south of Hardesty, Texas Co., **$116,884** est. $126,883; single bit. surf. course 7.872 mi. State Hy. 3, mi. east and south of Hardesty, Texas Co., **$173,508** est. $174,820***S. W. General Constr. Co., Lamar St., Dallas, Tex., drainage, minor structures 5.738 mi. State Hy. 2, south of Wilburton, Latimer Co., **$64,206** est. $64,388 ***b. conc. 5.723 mi. State Hy. 2, south of Wilburton, Latimer Co., **$250,022**-est. $256,009 ***to Standard Paving Co., 2119 E. 11 St., Tulsa, stabil. base and bit. surface course 7 mi. State Hy. 33 east from Texas State Line, Roger Mills Co., **$111,918** est. $114,873; stabil base and single bit. surf. course 5.166 mi. State Hy. 33 east from Texas line to Cheyenne, Roger Mills Co., **$55,275** est $56,177. To Moran, Buckner & Lyles, Southern Surety Bldg., Muskogee, c. conc. 7 mi. Washington Co., **$221,122** est. $246,367; c. conc. 4.833 mi. U. S. 75 between Ramona and Bartlesville, Washington Co., **$180,130** est. $203,643***to Park Ward Co., Insurance Bldg., Oklahoma City, asph. stabil. base and single bit. surf. course 5.693 mi. U. S. 70 west of Jefferson Co. line, Cotton Co., **$120,181** est. $129,698; asph. stabil. base and single bit. surf. course 5.106 mi. State Hy. 34 south of Leedey, Dewey Co., **$177,725** est. $178,832***to McConnell Constr. Co., 4820 N. W. 18 St., Oklahoma City, asph. stabil. base, single bit. surf. course

RUST

IS A "SLOW FIRE"
THAT IS COSTLY TO YOU

Where there is metal, rust is a constant threat. Unless all rust-producing conditions are fully checked by adequate protection, much of your property will "burn away" slowly—but as surely—as if consumed by fire. Stacks, tanks, metal roofs, structural steel, machinery, equipment and hundreds of other items are subject to destruction by this industrial scourge. *The faster rust gets in its deadly work, the sooner costly replacements are required.*

Stop Rust
WITH
RUST-OLEUM

It's a proved product (an exclusive formula) that gives long-lasting protection. Rust-Oleum coats metal with a tough pliable film that dries to a hard, firm finish. It's a rust preventive that's decorative, too. Rust-Oleum defies rain, snow, dampness, fumes, ordinary weathering and other destructive elements. Applied to metal where rust has already started, Rust-Oleum *saves it from further damage.* You don't have to remove all the rust. Available in aluminum and all colors, including white.

● **What Are Your Rust Problems?**
Write for complete Rust-Oleum data, or see our catalog in SWEET'S. Tell us your rust problems. We'll gladly send you specific recommendations.

Rust-Oleum is available through industrial distributors in most principal cities.

RUST-OLEUM CORPORATION
2472 Oakton Street Evanston, Illinois

5.93 mi. U. S. 70 west of Waurika, Jefferson Co., **$143,498** est. $161,935***to Mullinix Constr. Co., 1433 N. W. 5 St., Oklahoma City, stabil. base, and rock asph. surf. course 6.386 mi. State Hy. 34 from Eldorado to Red River, Jackson Co., **$238,946** est. $285,069***to Cohenour Constr. Co., Ardmore, traffic bound surf. 7.827 mi. farm to market road, Seminole Co., **$79,825** est. $83,135***to Noland Smith Constr. El Reno, traffic bound surf. course 7.772 mi. farm to market road, Comanche Co. **$85,904** est. $93,145. Grand total $2,140,574. Bids 3/8. CD 4/3.

●**Pennsylvania**—Pennsylvania Turnpike Comn., 11 N. 4 St., Harrisburg, drainage structures and paving approx. 5 mi. Sect. 21-A-2 of Philadelphia Exten. of Pennsylvania Turnpike in Middlesex and Silver Spring Twp., Cumberland Co., to J. Robert Bazley, Inc., Pottsville, **$1,934,287.** Bids 2/29. CD 4/3—ENR 3/10, under LB.

Tex., Beaumont—City, Otho Plummer, mayor. City Hall, rebuilding street paving with hot mix b. conc. topping, secondary streets in southern part of city, force account. **$90,000.** CD 2/11—ENR 3/3.

Tex., Beaumont—L. Stone & Assoc., Beaumont, streets, water and sanitary sewer lines, grading. Own forces. **$80,000.**

Tex., Bonham—Fannin Co., Bonham, reconstructing, surf. Road Dist. 4, **$75,000;** reconstructing, grading, drainage, surf. Road Dist. 6, **$110,000,** force account. CD 6/2—ENR 6/24.

Tex., Houston—Best Home Builders, Inc., c/o J. E. Lecher & Assoc., 3255 Rosedale St., street paving and grading, own forces. **$70,000.** Ryburn C. Shaner, 4019 River Dr., engr.

Tex., Odem—San Patricio Co., Precinct 2, E. H. Jackson, Comr., Odem, addnl. road imprvts., road constr., reconditioning and repaving, addnl. roads, force-account **$175,000** John Fenner, Sinton, consult.

Tex., Wharton—Wharton Co., Courthouse, asp., gr., and shell all-weather road constr., Precinct 1, **$125,000;** all-weather road constr., Precinct 2, **$100,000,** own forces. CD 11/8—ENR 11/24.

West Virginia—State Road Comn., Charleston, traffic bound base Type B 1.053 mi. Kearns-W. Va. Road S-584 (4), Randolph Co., to M. H. Cain Co., Inc., Clarksburg, **$62,033*****macad. base and surf. tr. 6.606 mi. Falling Water Relocation, S. P. 2171, Berkeley Co., and traffic bound base Type B 6.102 mi. Jonestown-Virginia State Line Rd., S-582 (1), Pendleton Co., to Stickley Bros., Inc., Burlington, **$68,291** and **$63,184** respectively***grading, draining 1.115 mi. Star City-Osage Rd., S-13 (4), Monongalia Co., to Keeley Constr. Co., Clarksburg, **$331,371.** Grand total $524,879. CD 2/25—ENR 3/3.

N. S., Halifax—Municipality, sidewalks, day labor, **$300,000.** R. M. McKinnon, city engr.

Ont., Wallaceburg—Municipality, 2 mi. sidewalks and repairs, day labor. **$75,000.** H. B. Craig, Wallaceburg, engr.

EARTHWORK, WATERWAYS

BIDS ASKED

March 31

Minn., Glencoe—McLeod Co., J. J. Leasman, aud., Glencoe, 143,175 cu. yd. excav., 1,148 ft. 24- to 72-in. portable culverts, 1,200 14 and 18 in. tile drain, for ditching job, $50,000. L. H. Merrill, Hutchinson, engr.

✦**Washington**—Bonneville Power Admin., 729 N. E. Oregon St., Portland, Ore., drilling two 450 ft. wells at site of Snohomish substation, Snohomish Co. Proj. No. 4358.

LOW BIDDERS

✦**Minn., St. Paul**—U. S. Eng., 1217 U. S. Post Office and Custom House, St. Paul, Zone 1, small boat harbor and channel imprvs., from Walter W. Magee Co., 1397 Laurel Ave., St. Paul, Zone 4, **$183,000.** Est. $156,590. CD 2/15—ENR 2/24.

✦**Montana**—U. S. Eng., Fort Peck, rejected bids Mar. 8, drain ditch for pressure relief wells; access roadway and revisions to relief well outlet facilities, Fort Peck, Serial No. Eng-24-016-49-63. Est. **$71,911.** CD 2/16—ENR 2/24, under Water Supply.

New Jersey—State Dpt. Conservation, Trenton, 500 ft. stone, creosoted timber jetty, Neptune Twp. and sluice gate, outlet pipe to prevent clogging, Wesley Lake, from Thomas Proctor Co., Inc., 218 N. 5 Ave., Long Branch, **$89,200** and **$28,200** respectively***4 stone, creosoted timber jetties, Sea Girt, from Jesse A. Howland & Sons, Inc., 50 Church St., Sea Bright, **$129,798*****dredging, constructing timber retaining structure, mouth of Broad Thoroughfare, Atlantic Co., from Hill Dredging Corp., 5691 Atlantic Ave., Ventnor, **$32,364.**

✦**South Carolina**—U. S. Eng., Custom House, Charleston, Mar. 1, maintenance dredging Shoals 5A, 6 and 6A, Charleston Harbor, Serial No. Eng-38-081-49-7, from Norfolk Dredging Co., Compostella Wharf, Norfolk, Va., **$193,071.** Est. $134,501. CD 2/14—ENR 2/24.

CONTRACTS AWARDED

✦**Arkansas**—U. S. Eng., 409 Broadway, Little Rock, approx. 200,000 bbl. portland cement for Bull Shoals Reservoir on White R., Fulton Mountain Home, Eng-03-050-49-40, to Universal Atlas Co., 208 S. LaSalle St., Chicago, Ill., **$700,000.** Bids 2/8. CD 2/14—ENR 2/24, under LB.

Minn., Albert Lea—Freeborn Co., A. C. Hartz, aud., Judicial Ditch 24, to J. Needles, Greenfield, Ia. **$117,010.** Bids 2/24. CD 2/2—ENR 2/10.

✦**Montana**—U. S. Eng., Fort Peck, hoist car for operation at spillway structure of Fort Peck Dam, Fort Peck, Serial No. Eng.-24-016-49-43, to Guy F. Atkinson Co. dba. Willamette Iron & Steel Co., 2860 N. W. Front St., Portland, Ore., **$52,500.** Bids 2/23, awarded 2/24. CD 1/26—ENR 2/3.

●✦**Oregon**—U. S. Eng., Pittock Block, Portland, Zone 5, constructing Detroit Dam, No. 35-026-49-333, to Consolidated Builders, Inc., Swan Island, Portland, **$28,230,509.** Est. $31,541,556. Bids 2/24, awarded 3/4. CD 3/1—ENR 3/3, under LB.

N. B., Botsford—Dpt. P. Wks., Hunter Bldg., Ottawa, Ont., breakwater extens., to J. W. McMullin & Son Ltd., Upper Gagetown, approx. **$96,000.** Bids 2/2. CD 1/20—ENR 1/27.

P. E. I., North Lake—Dpt. P. Wks., Hunter Bldg., Ottawa, Ont., breakwater reconstruction, to Henry J. Phillips, 9 Gratton St., Charlottetown. Approx. **$61,441.** Bids 3/9. CD 2/23—ENR 2/24.

AIRPORTS AND AIRBASES

BIDS ASKED

March 29

●**Pa., Pittsburgh** — TERMINAL — Comrs. Allegheny Co., County Office Bldg., 5 story, 90x560 ft., brick, terra cotta tile, limestone, granite terminal bldg., Greater Pittsburgh Airport. $1,700,000. Plans deposit $35. CD 12/15/43—ENR 12/23/43.

LOW BIDDERS

Ia., Waterloo — ADMINISTRATION BLDG. — Waterloo Municipal Airport Comn., Waterloo, general contract administration bldg., municipal airport, from John J. Miller Constr. Co., 222 W. Mullen St., **$122,125.** Flinn & Salto, Lafayette Bldg., archts.

N. Y., Albany — AIRPORT PAVING — Bd. Contr. & Supply, City Hall, Mar. 8, airport paving imprvs., from Louis Longhi & Son, Glens Falls, **$594,736.** CD 2/24—ENR 3/3.

CONTRACTS AWARDED

S. D., Rapid City — AIRPORT IMPRVS. — City, City Hall, runway and hangar apron to Northwestern Eng. Co., Rapid City, **$232,485;** sewer and water, to Black Hills Ditching Co., Buell Bldg., **$51,971.** Bids 2/28. CD 2/16.

✦**Alaska** — CONCRETE, etc. — U. S. Eng. APO 942, c/o P. M. Seattle, Wash., furnish aggregate, transit mix concrete and batched aggregate, cement, and construction projects at Fort Richardson, Eng-8-95-507-49-27, to M. B. Constr. Co., Fort Orchard, Wash., **$422,247.** Est. $435,005.

N. B., Coverdale (P. O. Moncton)—HOUSING—Dominion Govt., Dpt. National Defence, Ottawa, Ont., dwellings for married personnel, Wireless Training Station, to Modern Constr. Ltd., 7 Downing, Moncton, **$180,000.** Canadian Commercial Corp., 70 Lyon St., Ottawa, Ont., engrs.

LATIN AMERICA

Jamaica, Kingston—Caribbean Cement Co. Ltd., c/o Milholland & Stone, 5 Port Royal St., Kingston, 100,000 ton cement plant, to F. L. Smith & Co. Ltd., 105 Picadilly, London, England.

PUBLIC BUILDINGS

BIDS ASKED

March 29

Md., Hagerstown—Washington County Hospital, Hagerstown, 3 story, brick nurses home, $275,000. Plans deposit $25. Buckler, Fenhagen, Meyer & Ayers, Federal Land Bank Bldg., 24 and St. Paul St., Baltimore, archts.

Mass., Amherst—University of Mass., Alden C. Breck, pres., Alumni Bldg. Assn., 3 story, basmt., brick university apartments. Over $250,000. Plans deposit $20. Louis W. Ross, 131 State St., Boston, archt. CD 11/10—ENR 12/9.

✦**Va., Fort Belvoir**—U. S. Eng., First and Douglas Sts., Wash., D. C., family quarters, Serial No. 49-040-115 (27)-M. Berla & Abel, 1636 Connecticut Ave. N. W., Wash., D. C. archts. CD 8/13/48—ENR 9/2/48.

March 31

●**Tex., Alamo Heights (San Antonio P. O.)**—Alamo Heights Independent School Dist., c/o A. E. Robertson, pres., 5941 Broadway, Alamo Heights, San Antonio, high school, incl. heating plant, $1,350,000. Bartlett Cocke, 3501 Broadway, San Antonio, engr. CD 4/7/48—ENR 4/29/48.

April 5

●**Conn., Storrs**—State, Raymond A. Thatcher, comptroller, State Capitol, Hartford, Group C, Administration Proj. BI 10-11, University of Connecticut, $2,250,000. Plans deposit $50. McKim, Meade & White, 101 Park Ave., New York, N. Y., archts. CD 3/11.

●**N. Y., East Meadow**—Bd. Supervs. Nassau Co., Old County Courthouse, Mineola, hospital alterations, addns. $7,000,000. Plans deposit $250, general codpy $100, for others $25. Ketchel date. Eggers & Higgins, 342 Fifth Ave., New York, archts. CD 2/3—ENR 2/10.

LOW BIDDERS

Calif., Concord—Mt. Diablo Union High School Dist., Concord, Mar. 9, 2 story, reinforced concrete classroom bldg., from Harris & Fleidheim, 613 Menlo Ave., Menlo Park, **$232,733;** reinforced concrete gymnasium bldg. with swimming pool at Mt. Diablo Union High School, from H. E. Rahlmann Co., 251 Kearny St., San Francisco, **$437,966.** CD 2/14—ENR 2/24.

●**Conn., Hartford** — State, R. A. Thatcher, comptroller, State Capitol, project abandoned, 3 story, brick, steel state office bldg., L.B. **$1,075,000.** CD 1/18—ENR 1/11, under LB.

Conn., Manchester—Town Bd. Educ., Manchester, Mar. 8, 2 story, basmt., brick, steel school, Princeton St., from Bartlett-Brainard Co., 103 Woodbine St., Hartford, **$544,878.** CD 2/23—ENR 3/3.

Fla., Tallahassee—State Bd. Control, Tallahassee, rejected bids Dec. 31, men's residence halls at Florida A & M College, LB **$408,275.** Will readvertise. CD 2/10—ENR 2/13 under LB.

Md., Sykesville—Bd. Educ., Carroll Co., City Hall, 1 story, steel, concrete, Sykesville School alterations, addns., from C. B. Tovell & Co., 2503 St. Paul St., **$444,300.** CD 1/17—ENR 2/3.

Md., Towson—Bd. Educ., Baltimore Co., Washington and Susquehanna Aves., rejected bids Mar. 8, Gray Manor School, LB **$945,000.** Will readvertise. CD 3/16—under LB.

Mass., Agawam—Town of Agawam Housing Auth., R. A. Charpentier, chn., Town Hall, Mar. 10, housing, from Beaudry Constr. Co., 142 Hancock St., Springfield, **$298,864.** CD 2/16—ENR 2/24.

Mass., Boston—Boston Housing Auth., 10 Post Office Sq., rejected bids Feb. 25, fourteen duplex homes, Mattapan Veterans Housing Proj. Mattapan L. B. **$268,517.** Est. $250,000. New bid date Mar. 18. CD 3/2—ENR 3/10, under LB.

Mass., Dorchester—City of Boston, Trustees George Robert White Fund, City Hall, Boston, Mar. 10, health unit, Franklin Park, Harvard St., and Blue Hill Ave., from Peabody Constr. Co., 27 Farragut Rd., South Boston, **$277,085.** CD 2.

Mass., Salem—City of Salem Housing Auth., City Hall, Mar. 10, 32 unit Veterans Housing Proj. 200-1, North St., from Frankini Constr. Co., Inc., 26 Mystic Ave., Medford, **$287,480.** Howard E. Bailey, 6 Beacon St., Boston, and H. P. Kelsey, Inc., East Boxford, engrs. CD 2/14—ENR 2/24.

N. C., Louisburg—Franklin Co. Memorial Hospital, Louisburg, Mar. 10, 50 bed hospital, from Wm. Muirhead Constr. Co., Durham, **$296,000.** CD 2/15—ENR 2/17.

O., Cincinnati—Bd. Educ., 216 E. 9 St., rejected bids, 2 story, basmt., 105x303 ft., brick, structural steel, stone, concrete, Riverside Harrison School, 3232 River Rd., **$900,172.** May readvertise. CD 1/26—ENR 2/3.

Okla., Norman—Bd. Affairs, Capitol, Oklahoma City, Mar. 10, tuberculosis ward at Central Oklahoma Sanatorium, from **Pankersley** Constr. Co., 1st. Natl. Bank Bldg., Oklahoma City. **$389,250.** CD 2/15—ENR 2/17.

Okla., Norman—Bd. Affairs, Capitol, Oklahoma City, Mar. 1, remodeling Hope Hall at Central Oklahoma Sanatorium, from **Cowen** Constr. Co., Shawnee, **$250,580.** CD 3/3.

Ore., Nyssa—School Dist. 26-C, Nyssa, Mar. 9, 8 classroom Junior High School and gymnasium, from J. H. Wise & Son, Inc., Box 267, Boise, Idaho, basic, **$643,556,** alt. **$322,380.** CD 2/17—ENR 2/24.

Pa., Torrance—Dpt. Property & Supplies, 18 and Herr Sts., Harrisburg, Mar. 2, boiler plant imprvs. at Torrance State Hospital, from Bemeser Constr. Co., 808 Palace Bldg., Erie, **$305,800.** Est. $276,000. H. F. Lenz, Johnstown, engr.

Tenn., Nashville—Bd. Educ., Memorial Bldg., 2 story, concrete, brick, steel, Rosebank school addn., from D. R. Selley Co., 409 Fourth Ave. S., **$302,000.** Howard-Hickerson & Jordan, Inc., 304½ 3 Ave. N., archts.

Tex., Denton—City, J. L. Yarborough, mayor, Mar. 10, general contract 2 story, 102x264 ft., brick, hollow tile, structural steel, hospital, from Carpenter Bros., 1335 Plowman St., Dallas, **$599,750.** CD 2/8—ENR 2/10.

Va., Charlottesville—State, Richmond, Mar. 10, law bldg. addn. at University of Virginia, from Harry B. Graham Co., Charlottesville, **$270,982.** CD 2/21—ENR 3/3.

Va., Front Royal—Warren Memorial Hospital, Front Royal, Mar. 9, Warren Memorial Hospital from Wise Contg. Co., 8 and Grace Sts., Richmond, **$621,450.** CD 2/15—ENR 2/17.

Va., Leesburg—Loudoun Co. Hospital, Leesburg, Mar. 10, Loudoun County Hospital alterations, addns., from W. N. Hall & Son, Middleburg, **$297,126.** Rhees Hunter, 1223 Connecticut Ave. N. W., Wash. D. C., archt.

CONTRACTS AWARDED

Calif., El Monte—El Monte School Dist., 200 E. Columbia St., frame, stucco C. R. Wilkerson School, to Sherman Johnson, 905 W. Weaver St., El Monte, **$269,661.** Awarded 2/8. W. L. Culver, Jr., Anderson Bldg., San Bernardino, archt.

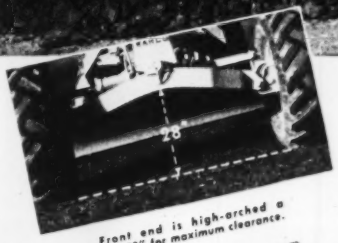
Fla., Haines City—Polk Co. Bd. Pub. Instruction, Bartow, high school, to **Henry A.** Ivey, Inc., 569 Plum St. N.W., Atlanta, Ga., **$325,895.** Bids 2/10. CD 2/11—ENR 2/24.

●**Fla., Jacksonville**—City, Electric Power Plant 2, South Jacksonville, to George D. Auchter Co., foot of E. 56 St., **$2,488,800,** Bids 2/24, awarded 3/11. CD 3/9—ENR 3/3, under L.B.; installing electrical work, in above bldg., to Cleveland Electric Co., 557 Marietta St. N. W., Atlanta, Ga., **$241,000.** Bids 2/24, awarded 3/11. CD 12/29—ENR 1/6.

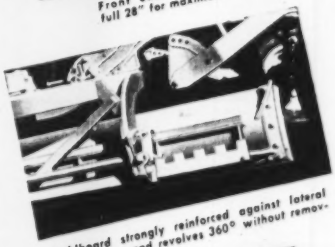
Ga., Elberton—Elberton-Elbert County Hospital Authority, Elberton, hospital, to Daniel Constr. Co., Greenville, S. C., **$530,200.** Bids 11/10, awarded 3/12. CD 11/17—ENR 11/25, under LB.

(Continued on page 46)

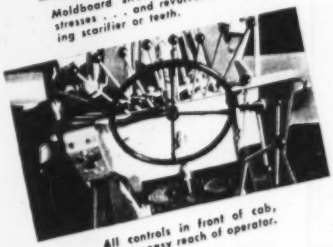
HEAVY-DUTY WARCO 4D-100



Front end is high-arched a full 28" for maximum clearance.



Moldboard strongly reinforced against lateral stresses . . . and revolves 360° without removing scarifier or teeth.



All controls in front of cab, within easy reach of operator.

THE WARCO MOTOR GRADER WITH...

- more work-power
- less operator fatigue
- every "on-the-job" advantage

Here's the 100 H.P. HEAVY-DUTY WARCO MOTOR GRADER that does MORE work in LESS time. Its advanced design and engineering . . . by the originators of hydraulic motor graders . . . result in a new high "on-the-job" accomplishment. And it's a honey to operate, even in roughest going.

Just add up these WORKING ADVANTAGES: *finger-tip* blade control . . . *accurate and positive adjustment* of blade and scarifier . . . *360° blade rotation* without removing scarifier or teeth . . . *sliding moldboard* for extra reach . . . *8 overlapping speeds* forward, 2 reverse. These and many other WARCO bonuses add up to just one thing . . . WARCO 4D-100 has EVERYTHING YOU WANT in your next heavy-duty motor grader.

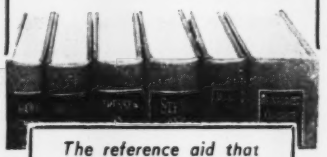
SEE YOUR WARCO DEALER . . . It won't take long for him to show you that *this new 100 H.P. WARCO is in all ways your best motor grader buy.*

W. A. RIDDELL CORP.

BUCYRUS • OHIO

BUILDERS OF WARCO MOTOR GRADERS • HERCULES ROAD ROLLERS

Save time and money on construction jobs



The reference aid that helps you solve your toughest construction problems

With the construction work that lies ahead for every engineer, it is only up to you to assure yourself of superior workmanship—ensure your work of the finest structural qualities—by providing yourself with this revision of the famous Hool and Kinne Library—the books which for years have been providing structural engineers with the facts they need on every problem concerned with the design and construction of civil engineering structures.

HOOL AND KINNE'S

Structural Engineers' Handbook Library

Revised by R. R. ZIPPRODT,

And prepared by a staff of sixty-three well known engineers, each a specialist in his field.

6 volumes; 3763 pages; 2719 illustrations; 63 contributors

Each one of these six volumes is a complete reference in itself on some aspect of structural engineering. The library

▶**COVERS** the how and why of foundation and substructure design and construction, the general theory of structural members, the detailed design of such members and the design of their connection with other members.

▶**EXPLAINS** the principles of statics, reactions, moments and shears in beams and trusses, influence lines, methods of computing stresses in lateral trusses and portal bracing.

▶**GIVES** details of design and construction of steel, timber and concrete structures of all types.

EXAMINE IT FREE!

We invite you to inspect these books for yourself, because we know that that is the one way you can realize their true value to you, and to the jobs that you do. You want to back up your own knowledge with sure, easy-to-get facts, and you want to make your workmanship worthy of your best time and effort. Therefore, the best investment you can make is to add to your own experience the tested working aids given in this dependable reference library.

Send for all six books, and allow them to go to work for you on your toughest problems.

10-day TRIAL EXAMINATION

McGraw-Hill Book Co., Inc., 330 W. 42 St., N.Y. 18

You may send me Hool and Kinne's Structural Engineers' Library for my inspection. If the books prove satisfactory, I will send $4.75 in 10 days and $5.00 per month until I have paid the price of the books, $29.75. If the books are not what I want, I agree to return them postpaid within 10 days of receipt.*

Name .....

Address .....

City ..... Zone ..... State .....

Company .....

Position NR-3-24-49

*SAVE! We pay postage and packing charges if you send first payment with this coupon. Same return privilege.

(Continued from page 41)

Ill., Evergreen Park—School Dist. 124, California and 91 Sts., 1 story, 30,000 sq. ft. ranchtype brick, glass block, school, to Gawlo Constr. Co., 1907 W. 79 St., Chicago, **$256,923.** Jim T. Pomeroy, Box 143 Orland Park, archt.—

Ill., Kankakee—Kankakee Bd. Educ. Kankakee, 2 story, brick, concrete, steel West Junior High School, to J. L. Simmons Co., 185 N. Wabash St., Chicago, **$108,100.** Bids 2/21. CD 3/4—ENR 3/10.

Ky., Owensboro—Daviess Co., Hospital Bd., Owensboro, hospital addn., to Whittenberg Constr. Co., 2214 S. Floyd St., Louisville, **$529,022.** Bids 12/21, awarded 3/11. CD 1/17—ENR 1/20, under L&B.

Minn., St. Paul—Ramsey Co., E. A. Monick, and general contract 1 story, 160x160 ft., concrete, steel garage, Rice St. and N. Owasso Blvd., to Steenberg Constr. Co., W. 1268 First National Bank Bldg., St. Paul, **$67,145.**

Miss., Ruleville—Bd. Supervs., Sunflower Co. Indianola, Hospital, to Starr Constr. Co., May Bldg., Greenville, **$387,000.** Bids 3/10, awarded 3/11. CD 2/23—ENR 2/24.

N. C., Raleigh—Bd. Comrs., Wake Co. Courthouse, county office bldg., to Strong & Harmon, Raleigh, **$262,999.** Bids 3/9. CD 2/11—ENR 2/24.

Okla., Oklahoma City—Bd. Educ., 400 N. Walnut St., Southeast Junior High School, to Builders Constr. Co., Keer McGee Bldg., **$467,500.** Bids 3/4. CD 2/15—ENR 2/17.

Ore., Eugene—Bethel School Dist. 52, 1000 Bethel Dr., wood frame Bethel High School, to Waale-Campian Co., 2100 S. W. Jefferson St., Portland, Zone 1, **$379,464.** Bids 3/1. CD 1/7—ENR 2/3.

B. C., Campbell River—Trustees of School Dist. 72, Campbell River, combined elementary-high school, 1 story elementary section, 2 story high school, 1 story vocational unit, 1 story administration, to Marwell Constr. Co., Ltd., 410 Seymour St., Vancouver, **$485,599.** Bids 2/15, awarded 3/10. CD 1/20—ENR 2/3.

Ont., Port Hope—P. School Bd., Mrs. G. V. Strong, secy., Port Hope, 2 story, 105x115 ft., brick, steel, Dr. Powers School addn., Ward St., to Bradford-Hoshal, Ltd., 1170 Yonge St., Toronto, Approx. **$251,062.** Bids 2/15. CD 2/2—ENR 2/10.

COMMERCIAL BUILDINGS

SOON LETS CONTRACT

Ala., Birmingham—N. H. Waters, c/o Pembleton & Mims, archts., Title Guarantee, Bldg., soon lets contract, apartment development. Over $250,000. Extended date. CD 2/23—ENR 2/3.

•Calif., Pittsburg—Roman Catholic Archbishop of San Francisco, 1100 Franklin St., San Francisco, soon lets contract St. Peter's Martyr Parish School and Convent, **$280,000.** Arnold S. Constable, 955 Spencer Ave., Sausalito, archt. Carl W. Zoellner, Box 315, Ross, engr. CD 3/11.

Ind., Fort Wayne—A. M. Strauss, archt., 415 Calhoun Bldg., soon lets contract 2 story, basmt., 63x69 ft. concrete, brick, granite lodge bldg., E. Jefferson St., for Odd Fellows Lodge 14, G. Kronmiller, chn. Bldg. Com., 1723 Cortland St. **$250,000.**

Mo., Normandy (St. Louis, Zone 21, P. O.)—German St. Vincent Orphans Home, c/o Sisters of Charity, 7401 Florissant Rd., Normandy, soon lets contract 1 story, 70x117 ft. brick, steel, concrete, gymnasium addn., locker and shower room, bleachers, A. F. and Arthur Stauder, 3608 S. Grand Blvd., St. Louis, Zone 18, archts. CD 1/19—ENR 2/3.

LOW BIDDERS

Md., Dundalk—Young Mens Christian Assn., 24 W. Franklin St., Baltimore, 3 story, brick, limestone Y. M. C. A. bldg., from Redding & Co., Inc., 26 E. 25 St., Baltimore, **$545,000.** Jamison & Marcks, 8 E. Mulberry St., Baltimore, archts. CD 3/10—ENR 4/8.

CONTRACTS AWARDED

Fla., Hollywood—Church of the Little Flower Parish, 1843 Pierce St., church, to Brennan Constr. Corp., 5660 N.W. 7 Ave., Miami. Est. **$300,000.**

Fla., Miami—Gold Coast Corp., c/o Roy F. France, archt., 1620 West Ave., Miami Beach, 87 apartment units. Owner builds. Over **$300,000.**

•Ga., Augusta—Myrtle Court Apartments, Inc., c/o James C. Wise, archt., 305 Techwood Dr. N. W., Atlanta, 352 apartment units, to Algernon Blair, Inc., Hemphill-Grady Bldg., Atlanta. Est. over **$1,000,000.**

La., New Orleans—Leakas Homes Inc., c/o contractor, residential development, to Shelby Constr. Co., Inc., 4320 Paris Ave., Est. **$135,000.**

•N. Y., Watertown—House of the Good Samaritan, 832 Washington St., hospital alterations, addns., to A. Friederich & Sons Co., 120 N. Massey St., Est. **$1,500,000.** Bids 2/11, awarded 2/16. CD 2/1—ENR 2/3.

O., Akron—Wagoner-Marsh Shoe Store, 174 S. Main St., 3 story, basmt., structural steel, masonry store to Weinstein Constr. Co., 573 E. Talmadge St. **$300,000.** Awarded 3/1. Lawrence H. Alcox, 539 E. Town St., Columbus, archt.

Ore., Portland—Portland Sanitorium, 932 S.E. 60th St., 2 story, 50x128 ft., rein.-con. hospital addn., to C. M. Corkum, 430 S.W. Harrison St., Zone 1, **$400,000.** Awarded 3/10. Claussen & Claussen, Guardian Bldg., Zone 4, archts.

Tenn., Fountain City—Central Baptist Church, c/o contractor, church addn. to J. M. Dunn & Son, 245 Broad St., Knoxville, Est. over **$250,000.**

Tex., Austin—Sisters of the Holy Cross, 41 and Red River Sts., St. Mary's Academy bldgs. to J. M. Odom, P. O. Box 774, **$497,880.** CD 3/16.

Tex., Bryan—Apartments, Inc., c/o J. C. Culpepper, 1505 S. College Ave., 58 apartment units. Owner builds. Approx. **$464,000.** CD 3/4—ENR 3/17.

Tex., Pasadena—Bayou Lake Corp. No. 2, c/o Carl C. Sharp, pres., 6604 Mercer St., Houston, 76 housing units, day labor. **$425,000.** CD 3/11.

Tex., Pasadena—Bayou Lake Corp. 1, c/o Carl C. Sharp, pres., 6604 Mercer St., Houston, 21 duplexes and seven 4 unit apartments, own forces. Approx. **$400,000.** CD 3/11.

•Tex., Pasadena—Max Krauss, Pasadena, 200 addnl. duplexes, own forces. **$1,350,000.** CD 4/13.48—ENR 4/29/48.

Tex., Port Lavaca—Calhoun Development Co., Port Lavaca, 60 unit housing, own forces. Approx. **$375,000.** J. P. Dearasaulgh, c/o owner, archt. CD 3/4—ENR 3/17.

Tex., Port Neches—J. M. Morgan, Port Neches, 50 dwellings, Unit 4. **$325,000;** 50 dwellings, Unit 3, **$300,000.** Owner builds. CD 6/24.48—ENR 7/8/48.

Tex., San Antonio—Highland Hills, Inc., 4220 S. Zarzamora St., housing, Delta St., etc. Owner builds. **$250,000.** CD 3/7.

Tex., Sherman—Austin College, Sherman, masonry, steel, concrete gymnasium and student union, to R. A. Farnsworth Constr. Co., Box 74, Houston, approx. **$250,000** each. Brown & Chapman, Sherman, archts. R. Rolfe, c/o owner, college archt. Lockwood & Andrews, Union Natl. Bank Bldg., Houston, engrs.

Tex., Wichita Falls—Morningside Park Estates, Inc., c/o Paul Thiem, Jr., Wichita Falls, dwellings, apartment, own forces **$375,000.** CD 2/10—ENR 2/24.

Va., Roanoke—Colonial-American National Bank, 202 Jefferson St. S., bank addn., improvs., to H. F. Parrott & Co., Boxley Bldg. Est. **$250,000.**

•Wash., Seattle—Keller-Block Corp., 3939 Surber Dr., 18 story, 100x232 ft., rein.-con. apartment and 2 story 116x232 ft. rein.-con. garage to W. W. Harfat Co., Inc. and W. L. and Harry Henson, 1001 Securities Bldg., Zone 1. Est. **$3,500,000.** CD 12/31—ENR 1/20.

•Ont., Eastview (Ottawa)—Roman Catholic Episcopal Corp., St. Patrick St., Ottawa, 60x700 ft. main unit, one 500 ft. wing and one 300 ft. wing, U-shaped seminary, Russell Rd., to Albert Bedard, 132 St. Patrick St., Quebec City, Que., Approx. **$2,000,000.** CD 11/23—ENR 12/2.

Ont., Toronto—Karshaw Constr. Co., Pelmo Park, North York, 50 dwellings. Owner builds. **$450,000.**

•Ont., Toronto—North Park Developments Ltd., 85 W. Richmond St., 250 dwellings along Russell Rd., Owner builds. **$2,300,000.** CD 1/16/46—ENR 2/7/46.

•Ont., York Mills—E. W. Goulding Co., Ltd., 13 E. Adelaide St., Toronto, 300 dwellings. Owner builds, **$2,500,000.**

•Que., Montmagny—Reverend Hospitaliers & Hotel Dieu, Levis, hospital, to J. Turcotte, 106 Murray St., Quebec City. Est. **$1,000,000.** F. Racicot, Contrecoeur, archt. Brouillet & Carmel, 3605 St. Denis St., Montreal, engrs.

INDUSTRIAL BUILDINGS

SOON LETS CONTRACT

Ky., Louisville—TERMINAL—Western Trucking Co., c/o J. R. Kolbrook, archt., Starks Bldg., soon lets contract trucking terminal.

Tenn., Nashville—WAREHOUSE—Guardian Life Insurance Co., c/o Hart, Freeland & Roberts, archts., 3rd Natl. Bank Bldg., soon lets contract warehouse, $250,000. CD 3/16.

Tex., Irving—GAS TERMINAL—Humble Oil & Refining Co., 2010 McKinney St., Houston, soon lets contract 1 story, irregular shape structural steel, etc., gas terminal, addn., $200,000. Le Roy F. Skubic, 53 W. Jackson Blvd., Chicago, Ill., archt. CD 8/14/46—ENR 2/22/46.

Ont., New Toronto—PLANT—Marsison & Babcock, engrs., 119 Isabella St., Toronto, soon lets contract plant exten., for W. & A. Gilbey Ltd., 7 Eighteenth St. $100,000.

LOW BIDDERS

La., New Orleans—BAKERY—Holsum Bakeries, Inc., 4700 Howard Ave., Mar. 8, bakery alterations, addns., from Perrillat-Rickey Const. Co., 1530 S. Rendon St., **$158,900.** CD 2/17—ENR 2/24.

La., New Orleans—PLANT—Times-Picayune Publishing Co., c/o low bidder, Mar. 11, printing plant addn., from Chris Larsen Co., Maritime Bldg., **$214,915.** CD 2/2—ENR 3/3.

N. D., Grand Forks—POWER PLANT—Minnkota Power Co-operative, Grand Forks, Mar. 1, power plant addns., incl. bldg. addn. and equip. diesel plant, from Fuel Economy Eng. Co., New York Bldg., St. Paul, Minn., **$548,877.** CD 2/19/47—ENR 3/6/47.

N. D., Grand Forks—STEAM PLANT IMPRVS.—Minnkota Power Co-operative, Grand Forks, cancelled bids to have been opened Mar. 18, electrical contract for steam plant. Will readvertise. CD 3/11—ENR 3/17, under Unclassified.

Ore., Coos Bay—GARAGE—Pacific Greyhound Lines, Curtis and 2 Sts., Mar. 4. 41x100 ft. garage, from H. Barnhart, 722 Dakota St., Medford. **$71,127.** CD 2/24—ENR 3/3.

Tex., Houston—INDUSTRIAL—Jarecki **Mfg.** Co., 5920 Navigation Blvd., industrial bldg., from Walter M. Rainey, 1211 Rosine St., **$145,000.** CD 2/15—ENR 3/3.

Tex., San Antonio—COLD STORAGE—Scobey Storage Co., 315 N. Medina St., Feb. 11. 2nd floor steel, concrete, cold storage addn., from E. H. Conrad. 150 Simpson St., **$72,000.** Est. $75,000. CD 2/8—ENR 2/17.

CONTRACTS AWARDED

●**Ark., Pine Bluff**—FACTORY—Pinecrest Cotton Mills, c/o Hardy & Schumaker, 420 Scarritt Arcade Bldg., Kansas City, Mo., factory, to Universal Constr. Co., Scarritt Bldg., Kansas City, Mo. Est. **$3,000,000.** CD 3/1—ENR 3/10.

Calif., Irvine—PLANT—Irvine **Bean & Grain** Growers, Irvine, concrete block, corrugated iron storage & plant, to Gridley Constr. Co., Box 649, Oxnard. **$200,000.** Moffatt & Nichol, 122 W. 5 St., Long Beach, engrs.

Calif., Los Angeles—PLANT FOUNDATION—Times-Mirror Co., 202 W. 1 St., printing plant foundation, Boyle Ave., to P. J. Walker Co., 3900 Whiteside Ave., **$68,500.** CD 6/6/46—ENR 6/27/46.

Conn., Hamden—FACTORY—High Standard Mfg. Co., 1817 Dixwell Ave., 1 and 2 story, 120x165 ft. and 75x100 ft., brick, steel cinder block factory, to Smith Constr. Co., Inc., 101 Water St., Darby. Est. **$100,000.** Bids 3/1. CD 3/1—ENR 3/10.

Conn., Hartford—WAREHOUSE—**G & P** Transfer & Storage Co., 211 Walnut St., 1 and 2 story, concrete, steel warehouse, Walnut St., to Ivor Johnson Co., Inc., 998 Farmington Ave., West Hartford. Est. **$75,000.** Julius Berenson, 45 Forest St., archt.

Conn., Norwalk—PLANT—Norwalk **Sand & Gravel** Co., Perry Ave., steel, concrete concrete mixing plant, incl. piers and **beams,** Perry Ave. Owner builds. **$68,000.**

Fla., Miami—WAREHOUSE—Dade County Growers Co-operative Marketing Assn., 1260 N. W. 22 St., warehouse. Owner builds. **$80,000.** Jorgensen & Schreffler, 713 Biscayne Blvd., engrs.

Fla., Tampa—PLANT—Tampa Electric Co., Tampa and Cass Sts., Hooker's Point Power Plant addn., to Stone & Webster Eng. Corp., 49 Federal St., Boston, Mass. Est. **$570,000.**

Ga., Orillia—WAREHOUSE, etc.—Irwin County Electric Co-operative, Orillia, warehouse and office, incl air-conditioning to A. B. Newton, Visalia. **$75,000.** Bids 3/10. CD 2/14—ENR 2/24.

Idaho, Nampa—GARAGE, etc.—K. W. Edmark, Nampa, brick, concrete garage and car display bldg., day labor. **$70,000.**

Ill., Chicago—PLANT—Appleton Electric Co., 1713 W. Wellington St., brick, stone, **steel** plant addn., to Carl E. Erickson, 4657 N. Ravenswood St. **$83,000.** R. C. Ostergren, 5153 N. Clark St., archt.

Ill., Evanston—FACTORY—Arens Control, Inc., 2253 S. Halsted St., Chicago, 1 story brick, steel, concrete, factory and office, to LaSalle Constr. Co., 343 S. Dearborn St., Chicago. Est. **$175,000.** P. R. Hynes, Riverdale engr.

●**Ill., Lockport**—REFINERY—The **Texas Co.,** 332 S. Michigan St., Chicago, refinery **extens.,** addn., storage tanks, utility bldg., to **Chicago** bridge & Iron Wks., 332 S. Michigan St., Chicago. Gravel Tank & Mfg. Co., **4800 Tod St.,** East Chicago, Ind., Hansen & Peterson Co., Joliet, and Henry B. Ogren & Sons, Lockport. Est. **$1,000,000.**

Mass., Charlestown—WAREHOUSE—U. S. Gypsum Co., 300 West Adams St., Chicago, Ill., warehouse, near Mystic River Bridge, to George A. Fuller Co., 11 Beacon St., Boston. Approx. **$100,000.** Bids 2/3, awarded 3/3.

Minn., Minneapolis—FACTORY—Fanny Farmer Candy Shops, Inc., 900 N. Third St., general contract 4 story, 47x152 ft. factory addn., 900 N. Third St., to D'Arcy Lock Constr. Co., 2838 Stevens Ave., **$150,000.** C. R. Straus, 454 Builders Exchange Bldg., archt.

Minn., Minneapolis—FACTORY—Minneapolis Moline Co., 3200 Como Ave., S. E., 1 story, 61x96 ft. and 1 story, 32x51 ft. factory, 3200 Como Ave. Owner builds. **$120,000.** D. L. Larson, c/o owner, engr.

Mo., St. Louis—BAKERY—White Baking Co., 4015 Papin St., Zone 10, 69x100 ft., brick, concrete baking plant addn., 4015-29 Papin St., to Woermann Constr. Co., 3800 W. Pine St., Zone 8. D. A. Bohlen & Son, 930 State Life Bldg., Indianapolis, Ind., archts.

N. C., Charlotte—WAREHOUSE, etc.—Southern Radio Corp., James P. McMillan, pres., 1201 W. Morehead St., 2 story, 100x126 ft. warehouse and office, 1600 W. Morehead St., to J. A. Jones Constr. Co., 209 W. 4 St., **$260,000.** Charles W. Connelly, Builders Bldg., archt.

O., Cincinnati—LABORATORIES, etc.—Abbott Laboratories, Sheridan at 14 St. N. Chicago, Ill., masonry laboratories and office, incl. driveways, to Penker Constr. Co., 1030 Summer St., **$300,000.** Awarded 3/8. CD 1/31—ENR 2/3.

●**O., Cincinnati**—WAREHOUSE, etc.—The Cincinnati Gas & Electric Co., 4 and Main Sts., masonry, concrete, steel warehouse, office and service bldg., to Day & Zimmerman, Inc., Packard Bldg., Phila., Pa. Est. **$2,000,000.**

Tenn., Nashville—BUS DEPOT—Central Trailways, 711-5 Ave. S. and Crescent Trailways Bus Co., 121 5 Ave. N., bus depot, 115 Sixth Ave. N., to Boone Contg. Co., Third Nati. Bank Bldg. **$250,000.** Donald W. Southgate, **Nashville** Trust Bldg., archt.

Tex., Aransas Pass—COLD STORAGE—Mustang Island Utilities Co., Aransas Pass, cold storage and ice plant. Own forces. **$75,000.**

Tex., Bayside—PLANT—Bayside Richardson Co-operative Gin Co., Bayside, cotton gin plant, force account. **$135,000.** CD 1/18—ENR 2/3.

Tex., Corpus Christi—SHOPS, etc.—Goad Motor Co., 202 N. Chaparral Rd., 3 auto bldgs., shop, service, paint and body, to E. Eisenhauer, 1124 N. Tancahua St., $90,000. Awarded 3/3. E. Dexter Hamon, Med. Prof. Bldg., archt. Frank T. Drought, 117 W. Pecan St., San Antonio, structural engr.

Tex., Corpus Christi—REFINERY—Southwest Texas Pipe Line Co., Tribble Rd., refinery plant expan., some pipe. Own forces. **$85,000.**

Tex., Lubbock—DAIRY PLANT—Borden Co., Lubbock, dairy plant addn., to W. G. McMillan, Lubbock. Approx. **$70,000.** James Atcheson, 204 Sanford Bldg., archt.

Tex., San Antonio—LABORATORY, etc.—Southwest Research Institute, c/o Tom Slick, Milam Bldg., automotive research laboratory and experimental shop, own forces. Approx. **$100,000.** CD 2/11—ENR 2/24.

Tex., Weslaco—COTTON GIN—Valley Growers & Gin Co., c/o Roy Jansen, Weslaco, super cotton gin plant force account. Approx. **$100,000.**

Wash., Seattle—WAREHOUSE—Seattle Terminals, Inc., 1990 Alaskan Way, 1 story, 200x240 ft., rein.-con. warehouse, to B. F. Turnbull, Inc., 4351 Leary Way. Est **$100,000.** CD 10/20—ENR 10/28.

Wash., Seattle—PLANT—Seattle Times Co., Fairview Ave. N. and Boston St., 5 story, rein.-con. newspaper publishing plant addn., to George E. Teufel Co., 4451 White-Henry-Stuart Bldg., Zone 1, **$465,000.** W. H. Fey, Cobb Bldg., Zone 1, archt. CD 3/11.

Wis., Milwaukee—WAREHOUSE—Miller Brewing Co., 4002 W. State St., Zone 8, 1 story, 130x230 ft., rein.-con. steel, brick, block warehouse, to Selzer-Ornst Co., 6222 W. State St., Wauwatosa, Zone 13. Est. **$180,000.** Strass, Hoeck & Assoc., 5920 W. North Ave., Zone 8, engrs.

Ont., Peterborough—MARKETERIA—Dominion Stores, Ltd., 832 Old Western Rd., Toronto, brick, cement marketeria, King and George Sts., to W. H. Mortlock, 550 Douglas St., Approx. **$100,000.** Riddle & Connor, 422 Wellington St., London, archts.

Que., Montreal—WAREHOUSE, etc.—Gattuso Olive Oil Corp., 6696 Papineau Ave., 100x200 ft. concrete, brick warehouse, Cote de Lirse Rd., to Concrete Constr. Co. Ltd., 1083 Decarie Bldg. Est. **$225,000.** (**Correction**—contractor). CD 1/4—ENR 1/13, under CA.

UNCLASSIFIED

BIDS ASKED

March 28

Mass., Boston—PIER FACILITIES—Port of Boston Authority, James R. Nolen, chn., Commonwealth Pier 5, South Boston, driving test piles and load tests, Mystic Piers 46 and 47. Plans deposit $5. CD 1/14—ENR 2/3.

March 30

●**Md., Baltimore**—STADIUM—Mayor & City Council, City Hall, demolition or alterations, structures, grading and construction lower stands of Section A to LE and A to LW, Babe Ruth Memorial Stadium, $1,650,000. Plans deposit $100. R. E. L. Williams, 419 Municipal Bldg., construction engr. CD 11/30—ENR 12/8 ENR 12/9.

Bids Asked

Pa., Drexel Hill—SWIMMING POOL CLUBHOUSE—Aronomink Swim Club, 708 Burmont Rd., swimming pool and clubhouse. **$100,000.**

South Dakota—RURAL DISTRIBUTION LINES—Rosebud Electric Assn., Winner, 241 mi. rural distr. lines, Trip Co. $200,000. Plans deposit $25. United Eng. Service, 600 Kasota Bldg., Minneapolis, Minn., engr.

LOW BIDDERS

†**California**—TUNNELS, etc.—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., Mar. 10, Tecolote Tunnel and access road, Santa Barbara Proj., about 10 mi. west of Santa Barbara. Spec. 2556, from Wunderlich Contg. Co., 530 Desnoyer Ave. St. Paul 4, Minn., **$5,482,865.** CD 2/7—ENR 2/17.

Calif., Albany—SWIMMING POOL—Albany Unified School Dist., 1005 Santa Fe Ave., rejected bids Feb. 23, rein.-con. swimming pool on high school grounds, LB **$299,689.** CD 3/3—CD 3/10, under LB.

Calif., Merced—EXHIBIT BLDG.—State Div. Architecture, P. Wks. Bldg., Sacramento, Mar. 8, 81x198 ft., stucco, wood, steel rigid trusses exhibit bldg., for 34th Dist. Agricultural Assn., from Harris Constr. Co., Box 109, Fresno. **$76,463.** CD 2/14—ENR 2/24.

Calif., San Francisco—TRACKS, etc.—Public Utilities Comn., City Hall, Mar. 11, removing tracks and reconstruct pavement on portion Market St., Spec. 308, from Eaton & Smith, 715 Ocean Ave., San Francisco. **$289,873.**

Calif., Susanville—GRANDSTAND—Lassen Co., Courthouse, Feb. 28, 2,400 seating steel, cement floor grandstand at Lassen County Fairgrounds, from B and B Steel Erectors, 632 39 St., Alameda. **$63,121.** CD 2/15—ENR 2/17.

Conn., New Britain—SWIMMING POOL—Boys Club of New Britain East Main St., Feb. 25, concrete, brick swimming pool addn., E. Main St., from Carlson & Torrell Co., 50 Dwight St. **$290,245** complete. CD 2/8—ENR 2/17.

Kentucky—RURAL DISTRIBUTION LINES—Green River Electric Co-operative, Owensboro, 325 mi. rural distr. lines, Davies, Ohio, McLean, Hopkins and Webster Counties, from Griffin Electric Co., 225 Saint Ann St., Owensboro. **$101,232.** CD 12/17—ENR 12/30.

●†**Nebraska**—RAILROAD RELOCATION—U. S. Engs., 601 Davidson Bldg., Kansas City, Mo., Mar. 11, relocating C. B. & Q. railroad tracks in Harlan and Franklin Counties, for Harlan County Dam Proj., Eng-23-028-49-126, from Morrison-Knudsen Co., 319 Broadway, Boise, Idaho. **$2,966,000.** CD 2/14—ENR 2/17.

North Dakota—RURAL DISTRIBUTION LINES—Capital Electric Co-operative, Bismarck, Mar. 3, 369 mi. "C" rural distr. lines, Burleigh Co., from Rue Contr. Co., Fargo. **$165,396.** CD 2/10—ENR 2/17.

Oregon—RURAL DISTRIBUTION LINES—Surprise Valley Rural Electrifications Corp., Alturas, Calif., rephasing lines and constructing 100 mi. new rural distr. lines, Lake Co., from Watsonville Electrical Appliance Co., Watsonville, Calif., **$254,747.** T. S. Oliver, Alturas, Calif., engr.

Tex., Coleman—HEADQUARTERS BLDG.—Coleman County Electric Co-operative, Inc., Coleman, headquarters bldg., from Trueheart & Caldwell, American Life Bldg., San Antonio. **$61,386.** Wyatt C. Hedrick, 1005 1st. Natl. Bank Bldg., Fort Worth, archt. CD 10/6—ENR 10/28.

CONTRACTS AWARDED

Ala., Montgomery—GRANDSTAND—Public Athletic Bd., c/o contractor, baseball grandstand, to Hear Brothers 25 E. Jefferson St., Montgomery **$173,500.** Bids 3/10. Ltd. 3/9.

Calif., Los Angeles—TRANSIT SHED FACILITIES—City Harbor Comn., 102 City Hall, transit shed facilities at Berths 154 and 155, to Haruchs Corp., 5655 Wilshire Blvd., **$942,150.** Bids 3/3, awarded 3/9. CD 3/10—ENR 3/17, under LB.

Georgia—POWER LINES—Rayle Electric Membership Corp., Washington, 303.89 mi. rural power lines in Greene, Hancock, Lincoln, Oglethorpe, Taliaferro and Wilkes Counties to Stuart Irby, 815 S. State St., Jackson, Miss., **$322,614.** Bids 3/8. CD 2/26—ENR 3/3.

●**Illinois**—OIL PIPELINE—Texas Empire Pipe Line Co., Phillower Bldg., Tulsa, Zone 2, Okla., 183 mi. 18 in. crude oil pipeline, 1st section between Patoka and Wilmington, to Anderson Bros. Corp., 767 N. Dreenan St., Houston, Texas. Approx. **$1,500,000*****123 mi. 18 in. crude oil pipeline, 2nd and 3rd sections, between Patoka and Wilmington, to H. C. Price Constr. Co., Bartlesville, Okla., **$3,135,-000.** Awarded 3/4.

Ill., Gordous Junction (Robinson, P. O.)—DRIVE-IN-THEATRE—Sky View Amusement Co., Harry Jones, pres., Lawrenceville, drive-in theatre, 10 acre site, H. L. Musgrave property, 3 mi. east of Robinson. Owner builds. Approx. **$100,000.**

Ill., Wood River—GRANDSTAND and LOCKER—School Dist., 144 Madison Co., F. G. Dykeman, secy., East Alton, Wood River Community High School to R. & R. tract grandstand and locker, East Alton-Wood River Community High School Dist. R. & R. Constr. Co., 735 Park Dr., Alton. **$51,696.** Est. $70,000. S. T. Pabst & Assoc., Goldman Bldg., East St. Louis, archts. CD 5/17/48—**ENR** 5/23/46.

La., Shreveport—SWIMMING POOL—City, City Hall, swimming pool at Lakeside Park, to W. A. McMichael Constr. Co., City Bank Bldg., Shreveport. **$57,454.** Bids 3/8. CD 2/25.

Mo., St. Louis—STREET LIGHTING—City, Milton M. Kinsey, pres. Bd. P. Service, 304 City Hall, repair maintenance street lighting sys., to R. J. McManemin, 3025 Brentwood Blvd., Brentwood, St. Louis, Zone 17. **$582,303.** CD 3/1—ENR 3/10, under LB.

Tex., San Antonio—TRANSMISSION LINES, etc.—City Public Service Bd., 210 N. St. Marys St., electric transmission lines into outlying districts, through Comal-Grandview sub-station, **$174,000;** electric sub-station in outlying dists **$85,000,** force account. CD 11/11—ENR 11/25.

Alta., Red Deer—SWIMMING POOL—Municipality, swimming pool, to Hornstein Bros., 1026 Richth Ave., Calgary, **$84,317.** A. B. Samuel, Red Deer, engr. CD 10/4—ENR 10/17.

British Columbia—RIGHT-OF-WAY—B. C. Power Comn., Victoria, clearing sections, transmission line right-of-way, Vernon to Kettle River Crossing, to George S. Finlaison Vernon. **$70,750.** Bids 1/22, awarded 1/24. CD 2/15.

B. C., Brentwood & Mill Bay—FERRY LANDINGS—Province of British Columbia, Parliament Bldg., Victoria, timber ferry landings, to Pacific Pile Driving Co. Ltd., 706 Fort St., Victoria. Approx. **$71,566.**

CONSTRUCTION REPORTS-Second Section

Third Section Construction Reports on page 54

WATER SUPPLY

BIDS ASKED

March 30

Ill., Cerro Gordo—Village, at office B. L. Chapman, clk., Village Hall, WW imprvs. Plans deposit $10. Warren & Van Praag, Inc., 253 S. Park St., Decatur, Ill., consult. engr.

March 31

Ia., Iowa Falls—City, City Hall, elevated water tank, $75,000.

✦N. Y., Brooklyn—Pub. Wks. Office, Third Naval Dist., Hudson Terminal Bldg., 50 Church St., New York, Zone 7, installing pump cross connections (standpipe and sprinkler). Bldgs. No. 1 and No. 1 Annex, Naval Medical Supply Depot. Spec. 21252.

April 2

Alta., Legal—L. Carriere, municipality secy., water supply sys. $60,000. Plans deposit $15. Ripley & Assoc., 5 Mortlake Bldg., Edmonton, engrs.

Ind., Carlisle—Town Bd., Dr. C. E. Whipps, pres., 23,500 lin. ft. 4 in. supply line, forty-five ¼- to 4-in. gate valves and boxes, seven ¾ in. air valves and boxes, two hundred twenty ¾- to 2-in. service connections, 27,855 lin. ft. 1½- to 8-in. c. i. watermains, 30 fire-hydrants, 8 flushing hydrants, 50,000 gal. elevated steel tank, deep well pump and pump house. $100,000. Plans deposit $10. Thos. Hardman Assoc., Hippodrome Bldg., Terre Haute, consult. engrs.

Ore., Roseburg—Roberts Creek Water Dist., Roseburg, 300 gal. p. m. capacity water filtering plant; furnish low lift and high lift pump; provide intake in South Umpqua River, furnish, lay 18,400 ft. 4- to 10-in. pipe. Plans deposit $20. H. L. Gilbert, Governor Bldg., Portland, Zone 4, engr. CD 1/26—ENR 2/3, under LB.

On or About April 7

✦Montana—U. S. Eng., Fort Peck, treated water line, Serial No. Eng. 24-016-49-67.

April 12

Tex., Austin—City, City Hall, 2 m. g. elevated steel water reservoir, northwest sect. of city. $225,000. G. Morgan, city engr. CD 5/24/46—ENR 5/30/46.

✦W. Va., Parkersburg—U. S. Eng., Madison Ave. and 8 St., W., Huntington, Zone 18, constructing Thirty-Fourth St. WW and power plant pump. stations for Local Protection Proj., Serial No. Eng-46-022-49-107. CD 2/25—ENR 3/10.

April 18

La., Harvey — Second Jefferson Drainage Dist., Warren, pumping plant extens. Plans deposit $10. J. M. Todd, 822 Perdido St., New Orleans, engr.

LOW BIDDERS

Ga., La Grange—City, rejected bids Mar. 15. Sect. 3, waterlines. L. B. **$116,283.** CD 2/17—ENR 2/24.

N. C., Lumberton—City, H. P. Allen, mayor, City Hall, rejected bids Mar. 9, general contract filtration plant addn. L. B. **$294,652;** filtration equip., L. B. **$98,800.** CD 2/15—ENR 2/17.

N. C., Randleman—Town, Town Hall, Mar. 9, watermains Sects. 1 and 5, from E. A. Deconynck Co., 3215 Duncan St., Columbia, S. C., **$73,155;** Sect. 3, tank, from Chicago Bridge & Iron Works, Healy Bldg., Atlanta, Ga., **$37,950.** CD 2/15—ENR 2/17.

Tex., Beaumont—City, City Hall, Mar. 15, pump station from R. P. Farnsworth & Co., 3018 Leeland St., Houston, **$206,951.** Est. $150,000. CD 2/16—ENR 2/24.

CONTRACTS AWARDED

Ga., Cairo—City, Cairo, elevated water tank, to Chicago Bridge & Iron Co., 332 S. Michigan St., Chicago, Ill. **$40,000.** CD 7/31/46—ENR 8/22/46.

Ga., La Grange—City, WW imprvs. incl. Sect. 1, filtration plant, to James H. Small Co., P. O. Box 4565, Jacksonville, Fla., **$453,000;** Sect. 2, Robert Fulter Mfg. Co., Darby, Pa., **$130,680.** Bids 3/15. CD 2/17—ENR 2/24.

O., Akron—City, Municipal Bldg., run 24 in. water line from airport distr into South Akron, to Deluca Constr. Co., 1055 Grant St., **$131,755.** Bids 3/4.

●Va., Norfolk—Dpt. P. Wks., City Hall, 70,000 lin. ft. 48 in. watermain, exclusive of underwater crossings, concrete pressure pipe from Moore's Bridges to Simonsdale, to A. Stanley Mundy & Co., 54 Main St., Woodbridge, N. J., **$2,158,766.** Bids 2/23. CD 2/10—ENR 2/17.

Ont., Richmond Hill—Municipality, watermains, day labor, **$30,000.** W. R. Casement, Richmond Hill, engr.

SEWERS, WASTE DISPOSAL

BIDS ASKED

March 29

New York—President Queens Boro, 120-55 Queens Blvd., Kew Gardens, Zone 15, combined sewers, appurtenances, Horace Harding Blvd., Broadway and 31 Ave.; sanitary sewers, appurtenances 118 Rd.; seepage basins, on northwest and southwest corners of 108 Ave., Queens Boro. CD 10/20—ENR 11/11.

April 2

Alta., Legal—L. Carriere, municipality secy., sewerage sys. $75,000. Plans deposit $15. Ripley & Assoc., 5 Mortlanke Bldg., Edmonton, engrs.

April 4

Idaho, Coeur d'Alene—City, City Hall, 45,969 ft. sanitary sewers, Northeast Dist. $158,000. CD 1/26—ENR 2/17.

S. D., Hot Springs—City, sewage plant, $60,000. Scott Eng. Co., 135 N. Phillips Ave., Sioux Falls, engr.

April 5

Del., Wilmington—Bd. Directors Street & Sewer Dpt., City Hall, constr. Contr. 49-1, approx. 550 lin. ft. 10 in. vitr. clay storm and sanitary sewers in 38 St. between Madison and Monroe Sts.; Contr. 49-2, approx. 2050 lin. ft. 10- to 18-in. vitr. clay storm and sanitary sewers in Bellevue and Eastlawn Aves. Plans deposit $2 each. CD 3/22/46—ENR 4/46.

April 6

Neb., Omaha—Douglas Co. Sanitary & Imprvt. Dist. 1, Omaha, sanitary sewerage sys. $143,959. Henningson Eng. Co., Standard Oil Bldg., engr.

Pa., Pennhurst—Dpt. Property & Supplies, 18 and Herr Sts., Harrisburg, sanitary sewer imprvs. at Pennhurst State School. Plans deposit $7.50. Frederick H. Dechant; Fidelity Phila. Bldg., Phila., Zone 9, engrs.

April 7

Conn., Plainville—Town, R. W. Hyatt, first selectmen; Town Hall, 29 Pierce St.; sewage disposal plant, Contr. 5, furnishing, placing fill at plant site and imprvs. Bowe, Albertson & Assoc., 110 William St., New York, N. Y., engrs. CD 2/7/46—ENR 2/21/46.

April 12

Ont., Toronto — Chairman Bd. Control, Toronto, altering exten. main sewage pump. station, Eastern Ave. Plans deposit $100. CD 8/10/44—ENR 8/24/44.

April 20

●R. I., Providence—Blackstone Valley Sewer Dist. Comr., A. A. Bonvicin, exec. secy., State Office Bldg., 5,700 ft. 7½ ft. and 675 ft. 24 in. sewers, appurtenant work, 1st. sect. sewage plant, serving Central Falls, Pawtucket, East Providence, Cumberland and Lincoln. Total cost $5,000,000. Metcalf & Eddy, Statler Bldg., Boston, Mass., engrs. CD 2/27/48.

First Week of May

La., New Orleans—Sewerage & Water Bd., G. Baudean, purch. agt., 526 Carondelet St., Zone 12, 4,750 lin. ft. 8x8 ft. to 12x16 ft. reinf.-con. lined and covered storm sewers, pile fdns. $585,000.

LOW BIDDERS

Idaho, Boise—City, City Hall, 17,000 ft. sewers in L. I. D.'s 124 and 1,780 ft. 27-in. sewer line, from Intermountain Plumbing Co., 14 and Grove Sts., **$195,866.** CD 3/25/48 — ENR 4/15/48.

CONTRACTS AWARDED

Ga., Valdosta—City, Proj. 3, sewage collection sys. extens., imprvs., to J. F. Newton, Tifton, **$207,893.** Bids 3/15, awarded 3/16. CD 2/25—ENR 3/10.

●O., Akron—City, M. L. Davis, dir., Municipal Bldg., install sludge digesters, gas holders, liquid treatment plant, etc. on incinerator at Botzum Sewage Disposal plant, Botzum, to National Eng. & Const. Co., W. 4 and Central Sts., Cleveland, **$1,549,512.** Bids 2/24. CD 1/31—ENR 2/3.

STREETS AND ROADS

BIDS ASKED

March 28

N. Y., New York—President Manhattan Boro, Municipal Bldg., Zone 7, conc.—3 in. sheet asph. repaving E. 61 St. from Lexington to Madison Aves., incl. widn. E. 61 St. from Lexington to Park Aves., etc.

April 1

La., New Orleans—Orleans Levee Dist., 200 Civil Court Bldg., Royal and Conti Sts., paving, 2,560 sq. yd. Concrete Concourse, Pontchartrain Beach.

April 4

Tex., San Antonio—Bexar Co., Charles W. Anderson, judge, Courthouse, double asph. surf. treatment approx. 12 mi. Precinct 1, $75,000; approx. 8 mi. Precincts 2 and 3, $60,000; approx. 12 mi. Precinct 4, $75,000. E. G. Garvey, county engr.

April 8

Ala., Dadeville—Tallapoosa Co. c/o county engr., Dadeville, imprv. 4.626 mi. roads. Plans deposit $10.

April 11

Ala., Talladega—Talladega Co., c/o Lewis T. Dellardeleben, co. engr. imprv. 12.749 mi. roads. Plans deposit $10.

LOW BIDDERS

✦Virginia—Pub. Roads Admin., 1440 Columbia Pike, Arlington, Mar. 15, constructing 34.266 mi. Blue Ridge Parkway, Floyd, Patrick and Carroll Counties, from Adams & Tate Constr. Co., P. O. Box 60, Roanoke, **$357,796.** CD 2/24—ENR 3/3.

CONTRACTS AWARDED

Arizona—State Hy. Comn., Phoenix, grading, draining, select material, aggregate base and bit. 10¾ mi. beginning about ½ mi. west of Canyon Diablo and 24 mi. west of Winslow and exten. westerly FI. 8(66) APE 6637, Coconino Co., to Phoenix-Tempe Stone Co., 13 Ave. and Buchanan St., Phoenix. **$438,955.** Bids 3/2, awarded 3/12. CD 2/16—ENR 2/24.

Arizona—State Hy. Comn., Phoenix, base material and bit. road mix 4 mi to point west of Welton, beginning about 24 mi. east of Yuma and exten. east, Yuma and Phoenix Hy., FI 26(3) AFE 8025, Yuma Co., to Tiffany Constr. Co., W. Broadway Rd., Phoenix, **$197,617.** Bids 3/4, awarded 3/11. CD 2/25.

Conn., Bridgeport — City, Peter Brewster, dir. P. Wks., Bridgeport, repairing, and repaving streets, in various sections, one foot. **$70,000.** Henry L. Rowland, City Hall, city engr.

Tex., Honey Grove—Honey Grove Road Dist. Fannin Co. Honey Grove, repairing, rebuilding farm-to-market roads, own forces. **$115,000.** CD 6/28—ENR 7/8.

Tex., Lubbock—City, City Hall, street surfacing and seal-coating, to Kerr & Middleton, Lubbock, **$109,800.** R. L. Oldham, city engr. CD 12/19/45—ENR 1/10/46.

Tex., Victoria — Victoria Co., c/o judge, Courthouse, road work, grading, drainage, base and asph. topping, from Hy. 87 near Victoria northward toward DeWitt Co. line, **$110,000;** road constr. and asp. between Hy. 295 toward Jackson Co. line, **$135,000,** force account. CD 12/17/47—ENR 1/8/48.

EARTHWORK, WATERWAYS

BIDS ASKED

March 30

✦Louisiana—U. S. Eng., foot of Prytania St., New Orleans, 48,000 sqs. articulated concrete mattresses, Vidalia, Serial No. Eng.-16-047-49-244.

April 1

✦Florida—U. S. Eng., P. O. Box 4970, Jacksonville, Intracoastal Waterway, Caloosahatchee River to Anclote River, Inv. No. Eng.-08-123-49-79. CD 6/9/44—ENR 6/29/44.

April 5

La., Lake Charles—Calcasieu Parish Police Jury, Lake Charles, drainage, 1,613,500 yd. excav. CD 12/17—ENR 12/23, under LB.

✦Montana—U. S. Eng., Fort Peck, drain ditch for pressure relief wells, access roadway and revisions to relief well outlet facilities, Serial No. Eng. 24-016-49-66.

April 7

✦Colorado—Bureau Reclamation, Dpt. Interior, New Customhouse, Denver, constr. surface and subsurface drainage sys. in vicinity Shadow Mountain Lake, Grand Lake, Colorado-Big Thompson Proj., Spec. No. VII-48 L. N. McClellan, Bldg. 1-A, Denver Federal Center, Denver, ch. engr.

✦Oregon—U. S. Eng., 628 Pittock Block, Portland, Zone 5 repairing levee along left bank of the South Santiam River at Santiam Lumber Co. location, approx. ½ mi. east of Lebanon, Linn Co., Serial No. Eng-35-026-49-439.

April 12

✦Colorado—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, 2 motor driven-vertical-shaft pumping units for installation in 2 well sump pumping plants, Colorado River Imprvt. Kremmling Area, Colorado Big Thompson Proj., Spec. 2608. L. N. McClellan, ch. engr.

✦Kansas—U. S. Eng., 601 Davidson Bldg., Kansas City, Zone 8, Mo., raising Stock Yards Bridge, Mile 1.68 on Kansas River, Kansas City, Serial No. Eng.-23-028-49-174. CD 3/14—ENR 3/17.

Minn., Ada—Norman Co., A. Elleraas, aud., Ada, County Ditch 64, 96,257 cu. yd. excav., 161 lin. ft. 42- to 60-in. portable culverts, 5 fabricated culverts, or treated timber bridges, etc. $31,435.

✦New Jersey—U. S. Eng., 120 Wall St., New York 5, N. Y., dredging 52,400 cu. yd. material except ledge rock from Shark River.

April 14

Ariz., Phoenix—Salt River Valley Water Users' Assn., at office, General Manager, Water Users' Bldg., Second Ave. and Van Buren St., spillway gates, appurtenances at Horseshoe Dam on Verde River Maricopa Co. Plans deposit $25. Leeds & Jewett, 742 Security Bldg., 234 N. Central Ave., Phoenix, Ariz., and 1000 Edison Bldg., 601 W. 5 St., Los Angeles, 13, Calif., engrs.

✦Idaho—Bureau Reclamation, Dpt. Interior, Bldg. 1A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars Mountain Home, one 45 ton transformer transfer car, Anderson Ranch Dam Power Plant, Boise Proj., Spec. 2607. L. N. McClellan, Bldg. 1A, Denver Federal Center, Denver, Colo., ch. engr.

†**Kansas**—U. S. Eng., 601 Davidson Bldg., Kansas City, Zone 8, Mo., floodwall, levee, appurtenances, Armourdale Unit, Kansas Citys Flood Control Proj., Serial No. Eng.-23-028-49-159.

†**Kentucky**—U. S. Eng., 303 U. S. Court House, Nashville, Tenn., clearing, segments, Group 3, Wolf Creek Reservoir, Wayne, Pulaski, McCreary, Laurel and Whitley Counties, Serial No. Eng.-40-058-49-71. CD 3/14—ENR 3/17.

†**Mississippi**—U. S. Eng., P. O. Box 60, Vicksburg, clearing Narrows Reservoir, Serial No. Eng.-22-052-49-145.

On or About April 15

†**Ia., Council Bluffs**—U. S. Eng., 1709 Jackson St., Omaha, 2, Neb. Agricultural Levee Unit L-627-624, incl. Schedule A (Unit 627 Section 1,) 444,000 cu. yd. levee embankment, 320 lin. ft. 36 and 48 in. culvert pipe, 2 outlet structures, 280 acres clearing, grubbing and 42 acres seeding; Schedule B (Unit 627 Section 2) 604,000 cu. yd. levee embankment, 325 lin. ft. 54 in. culvert pipe, 2 outlet structures, clearing 112 acres clearing and grubbing, 52 acres seeding; Schedule C (Unit 624, Section 1), 265,000 cu. yd. levee embankment 1,080 lin. ft. 24 to 54 in culvert pipe, 3 outlet structures, 71 acres clearing, grubbing and 23 acres seeding; Schedule D (Unit L-624, Section 2) 408,000 cu. yd. unclassified excav., 620 lin. ft. 24 to 60 in. culvert pipe, 6 outlet structures, clearing and grubbing, 33 acres seeding; Schedule E (Unit L-624, Section 3) 330,000 cu. yd. unclassified excav., 335 lin. ft. 24 to 36 in. culvert pipe, 8 outlet structures, clearing and grubbing and 28 acres seeding; Schedule F, entire work as included in Schedules A, B, C, D and E, Serial No. Eng.-25-066-49-192. Plans deposit $10.

April 15

†**California**—U. S. Eng., 751 S. Figueroa St., Los Angeles, Zone 55, North Jetty and San Diego River and Mission Bay Proj., incl. constr. approx. 3,300 ft. stone jetty, clearing and removing obstruction, excav., Serial No. Eng.-04-353-49-58. Approx. $400,000. CD 4/21/44— ENR 5/4/44.

†**Washington** — Bureau Reclamation, Dpt. Interior, Coulee Dam, earthwork, concrete lining, structures, Station 574 plus 15.97 to Station 1410 plus 00, East Low Canal and Station 0 plus 00 to Station 348 plus 12, Rocky Coulee Wasteway, Columbia Basin Proj., from Moses Lake to 13 mi. north thereof. Spec. 2603.

April 25

†**Oklahoma**—U. S. Eng., 416 Wright Bldg., Tulsa, reservoir clearing, Fort Gibson Dam, Grand (Neosho) River.

April 29

†**Louisiana**—U. S. Eng., foot Prytania St., New Orleans, Zone 9, Bayou Cocodrie Drainage Structure, Red River backwater levees, approx. ½ mi. upstream from confluence of Red River and Bayou Cocodrie, 3 mi. west of Shaw, Concordia Parish, Serial No. Eng.-16-047-49-242.

LOW BIDDERS

†**Arkansas**—U. S. Eng., 300 Broadway, Little Rock, installing wire equip. for second powerhouse and switchyard equip., Norfolk Dam on North Fork River White River Watershed, Baxter Co., about 4½ mi. northeast of Norfolk, 10 mi. southeast of Mountain Home, Serial No. Eng.-03-050-49-43, from Gable Electric Service, 6713 Snider Plaza, Dallas, Tex., **$301,930.** Est. $285,803. CD 2/7—ENR 2/17.

†**Oregon**—U. S. Eng., Pittock Blick, Portland, rejected bids Feb. 15, restoration revetment along Bradford Island, directly downstream from spillway dam at Bonneville, Eng.-35-026-49-399. LB **$74,915.** CD 2/25—ENR 3/3, under LB.

†**Texas**—U. S. Eng., 606 Santa Fe Bldg., Galveston, cancelled bids to have been opened Mar. 24, eight dredging ranges, Galveston Harbor Entrance Channel, Galveston Co., Inv. No. Eng.-41-243-49-231. CD 3/7—ENR 3/10.

†**Wyoming**—Bureau Reclamation, Dpt. Interior, Cody, Mar. 11, earthwork, canal lining, concrete siphon for Willwood Canal relocation, Station 24 plus 93.50 to 34 plus 53.98 Shoshone Proj., Willwood Div., Spec. 2559, from Evans W. Ashby Constr. Co., 1150 S. 8 E St., Salt Lake City, Utah. **$145,702.** CD 2/11—ENR 2/24.

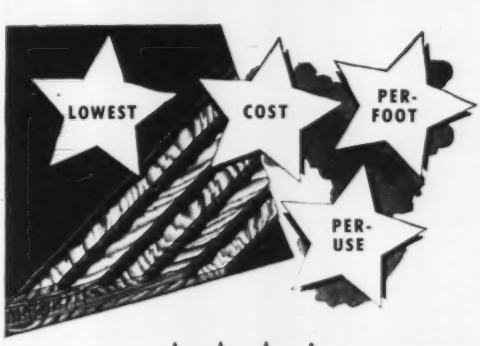
CONTRACTS AWARDED

●†**California**—Bureau Reclamation, Dpt. Interior, Redding, earthwork, structures, track, telephone line for Shasta Dam branch line railroad relocation, Middle Creek to Matheson and earthwork structures surfacing for Shasta County road relocations, Keswick Reservoir, Central Valley Proj., Spec. 2477, to R. A. Heintz, 8101 N. E. Union St., Portland, Ore., **$1,744,620.** Bids 12/29 awarded 3/14 CD 1/10—ENR 1/13, under LB.

†**Louisiana**—U. S. Eng., foot of Prytania St., New Orleans, Zone 9, rein. con. walls for Algiers Lock, Orleans Parish, Serial No. Eng.-16-047-49-216, to Stevens Bros. & The Miller Hutchinson Co., Inc., 730 Graver St., New Orleans, **$927,442.** Bids 3/3, awarded 3/17. CD 3/16—ENR 3/17.

†**Montana**—Bureau Reclamation, Dpt. Interior, Bldg. 1A Denver, Federal Center, Denver, Colo., Item 1, one lot fabricated w.i. p-pe, appurtenances for Hungry Horse Dam, Spec. 2511, Hungry Horse Proj., to Assoc. Piping & Eng. Co., Inc., Compton, Calif., **$29,600.** Bids 1/25, awarded 3/11. CD 12/23—ENR 1/6.

O., Circleville—Dpt. Pub. Wks., George B. Sowers, dir., Ohio Dpt. Bldg., Columbus, 183 acre fishing lake at Hargus Creek 3 mi. north-



HARBOR **Harborite**

Trade Mark Registered. Patents 2,150,697—2,150,698—2,150,841 and 2,343,740

The Superior Multiple Re-Use Concrete Form Panel

These four-star features make Harborite today's leading concrete form panel

1 Hard, check-free, durable overlay faces—for near-perfect concrete surfaces.

2 Genuine SUPER-Harbord core-body (sanded smooth) for strength and durability.

3 Overlay has a "tooth" for oil, sealer, or lacquer; slight absorptive liner effect reduces pit voids.

4 Reddish-brown overlay face will NOT bleed nor discolor concrete. No added finishing problems.

Specify Harborite

—the concrete form panel which can be used again and again until literally worn away. Harborite sizes—widths: 36" to 48"; lengths: 96" to 144"; thicknesses: ¼" to 1⅛". Thickness tolerance: ±⅛". Edge-sealing and mill-oiling optional.

And for other concrete form job requirements, Harbor offers three more star performers, all backed by Harbor's name and Harbor's reputation—

★ ★ ★

SUPER-Harbord PLYCRETE—Grade-marked: EXT ● DFPA ● AA. For multiple re-use form work. Hot-press-bonded with phenol-type resin adhesive. ALL veneer jointed. All open defects in crossbands repaired. Re-humidified after pressing. Sanded smooth both sides. Edge-sealing and oiling optional. ★ ★

Harbord PLYCRETE—Grade-marked: INTERIOR ● AA ● DFPA. Harbord PLYCRETE has the same veneer faces as SUPER-Harbord Plycrete, but is bonded with 10-cycle moisture resistant glues instead of waterproof adhesives. Sanded smooth both faces. Will withstand many re-uses. Factory edge-sealing and oiling optional.

★

Harbor PLYFORM—Grade-marked: PLYFORM ● DFPA ● BB. Bonded with water-resistant 10-cycle glues (not waterproof). Both faces are BB (solid) veneer, free from open defects. Sanded smooth. Factory edge-sealing and oiling optional.

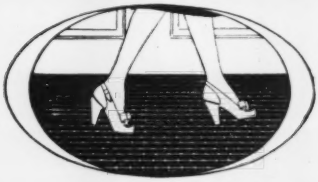
For information concerning Harborite and other Harbor Concrete Form Panels, contact:

HARBOR PLYWOOD CORPORATION, Hoquiam, Washington

—or any of the following —

DISTRIBUTORS—California - Geo. E. Ream Co., 235 S. Alameda St., Los Angeles 12; Harbor Plywood Corporation (of California), 540 Tenth St., San Francisco 3 **Colorado** - Donald B. Richardson, 1650 Eleventh St., Denver 4 **District of Columbia** - Harbor Sales Co., Inc., 4th and Bryant Sts. N. E., Washington. **Florida** - Harbor Plywood Corporation, 2355 Dennis St., Jacksonville 4; Harbor Plywood Corporation, Box 265, Buena Vista Sta. (3627 N. E. 1st Court), Miama 37; Harbor Plywood Corporation, P. O. Box 2168 (802 No. Rome Ave.), Tampa 1 **Georgia** - Harbor Plywood Corporation, 1161 Ridge Ave. S. W., Atlanta 3 **Illinois** - Harbor Plywood Corporation, 1444 W. Cermak Road, Chicago 8 **Indiana** - E. W. Camp Plywood Co., Inc., 1001 E. New York St., Indianapolis 7 **Kentucky** - E. W. Camp Plywood Co., Inc., 825 S. 9th St., Louisville 2 **Maryland** - The Harbor Sales Co., Inc., 1501 S. Warner St., Baltimore 30 **Massachusetts** - Kimball Lumber Co., 148 Waltham St., Watertown; Lawrence R. McCay & Co., Inc., 332 Main St., Worcester 8 **Missouri** - H. H. Horton, Harbor Plywood Corporation, 1301 R. A. Long Bldg., Kansas City 6; Fry-Fulton Lumber Co., 148 Carroll St., St. Louis 4 **Nebraska** - W. R. Stelzer, 200 Foster-Barker Bldg., Omaha 2 **New Jersey** - J. R. Quigley Co., 811 Market St., Gloucester City **New York** - Plunkett-Webster Lumber Co. Inc., 815 East 136th St., New York 54; Plunkett-Webster Lumber Co. Inc., 271 North Ave., New Rochelle; Kimball Lumber Corporation, P. O. Box 625, Schenectady **Ohio** - E. W. Camp Plywood Co., Inc., Commerce at Plum St., Cincinnati 2 **Pennsylvania** - J. R. Quigley Co., Front and Railroad Sts., Cressona; J. R. Quigley Co., 1290 S. Cameron St., Harrisburg; J. R. Quigley Co., 309 Harrisburg Ave., Lancaster; J. R. Quigley Co., 1028 N. Delaware Ave., Philadelphia 25; G. A. Whitmeyer, Harbor Plywood Corporation, 1028 N. Delaware Ave., Philadelphia 25; Wholesale Distributing Co., 36th St. and A. V. R. R., Pittsburgh 1 **Washington** - Harbord Mercantile, Port Dock, P. O. Box 998 Aberdeen; Lundgren Dealers Supply, P. O. Box 1373 (440 E. 25th St.)Tacoma 1

THE SAFE
OPEN STEEL FLOORING
IS TRI-LOK



No object over ½ square inch can pass through super-safe U-Type Tri-Lok Flooring. Fabricated without bolts, rivets or welds, it is unsurpassed for plant installation, walkways, loading platforms. Efficient distribution of concentrated loads . . . maximum free opening for light and air. Write for Bulletin JX 1140.

DRAVO CORPORATION

National Distributor for the Tri-Lok Company

Dravo Bldg., Pittsburgh 22, Pa.

Sales Representatives in Principal Cities

DRAVO

"GUNITE" CONCRETE (Since 1915)

FOR • STEEL PLATE LINING • STEEL ENCASEMENT • BUILDING NEW WALLS • LINING WATER RESERVOIRS TUNNELS AND SEWERS • PLATE LINING OF STEEL STACKS, BUNKERS, DUCTS • REPAIR OF DISINTEGRATED CONCRETE AND MASONRY • CANAL, DITCH AND DRAIN LINING

GUNITE CONCRETE & CONST. CO.
1301 Woodswether Rd., Kansas City 6, Mo.

District Branch Offices

R. N. Turner, Dist. Mgr., 228 No. LaSalle St., Chicago 1, Ill.; B. H. Mueller, Dist. Mgr., 6625 Delmar Blvd., University City, (St. Louis), Mo.; Philip D. Barnard, Dist. Mgr., 2036 Addison, Houston 5, Tex.

Branch Offices: Denver, Dallas, New Orleans

See our catalog in Sweet's

Hayward Buckets

Use this Class "E" Clam Shell Bucket for handling crushed stone, gravel, sand and other bulk materials.

THE HAYWARD CO., 48-50 Church St., N. Y.

east of here, constr. 330,000 cu. yd. earthen dike fill with concrete spillway at one end, to H. W. Holt & Son, 998 W. Mound St., Columbus, **$177,000.** Bids 1/27. CD 1/5—ENR 1/20.

Pennsylvania—Dpt. Forests & Waters, 463 Education Bldg., flood control and recreation dam to cover approx. 1,082 acres on Shawnee Branch of Raystown Branch of Juniata River at Napier, Bedford Co., to Latrobe Constr. Co., Latrobe, **$581,732.** Est. $1,200,000. Bids 3/3, awarded 3/14. CD 3/8—ENR 3/10, under LB.

N. S., East Ferry—Dpt. P. Wks., Hunter Bldg., Ottawa, Ont., breakwater replacement, to M. A. Condon & Son., 63 Aberdeen St., Kentville. Approx. **$60,000.** Bids 1/26. CD 1/13—ENR 1/20.

AIRPORTS AND AIRBASES

BIDS ASKED

March 29

Minn., St. Cloud—AIRPORT IMPRVS.—City, A. B. Haberkorn, clk., City Hall, municipal airport improvs., incl. runway extens., surfacing, drainage, etc. $50,000. J. D. Gray, city engr. CD 1/4/45—ENR 2/8/45.

March 30

†**Mass., Squantum**—QUARTERS—At office Officer-in-Charge Constr., First Naval Dist., 495 Sumner St., Boston, married officers quarters, U. S. Naval Air Station, Spec. 19774. Plans deposit $10.

April 6

†**Ill., Springfield**—AIRPORT FACILITIES—U. S. Eng., 520 Merchandise Mart, Chicago, Zone 54, two 130x160 ft. portable steel hangars, 2 story, masonry lean-to, masonry boiler house, water supply and distr. lines, storm drains, sanitary sewer line, electrical distr. sys., paved apron, roadway, sidewalks, etc., Illinois National Guard Facilities, Capitol Airport, Serial No. Eng. 11-032-449-73.

April 6

†**Va., Oceana**—ROADS—Pub. Wks. Office, Headquarters, Fifth Naval Dist., U. S. Naval Base, Norfolk, Zone 11, resurfacing roads at Naval Auxiliary Air Station, Spec. 22104. Plans deposit $10.

April 14

†**Colo., Colorado Springs** — INSTRUMENT LANDING SYSTEM — Civil Aeronautics Admin., City Hall, Kansas City, Mo., instrument landing sys. at Peterson Field.

April 18

N. Y., Binghamton—AIRPORT—At office Howard Davis, clk. Bd. Supervs., Broome County Office Bldg., paving and other constr. Broome County Airport. Plans deposit $15. S. P. Carman, Security Mutual Bldg. and Seelye, Stevenson & Value, 101 Park Ave., New York, Zone 17, consult. engrs. Extended date. CD 3/10—ENR 3/17.

On or About April 21

†**Fla., Jacksonville** — AIRPORT FACILITIES — U. S. Eng., Post Office Bldg., Savannah, Ga., contr. and rehabilitating Air National Guard Facilities at Jacksonville Municipal Airport.

On or About April 23

†**Ga., Marietta** — SHOP — U. S. Eng., Post Office Bldg., Marietta, motor service shop at Marietta Air Force Base.

April 30

†**Tex., LaPorte** — RADAR CONTROL CENTER — U. S. Eng., 606 Santa Fe Bldg., Galveston, radar station control center near here, for Texas Air National Guard, c/o Lt. Col. J. D. Nottingham, Ellington Field, $500,000. Mills & Petticord, 3308 14 St. N.W., Wash., D. C., archts. CD 3/7.

CONTRACTS AWARDED

Ga., Savannah—RUNWAY—City, exten. runway at Hunter Field, to Espy Paving & Constr. Co., 108 E. Bay St., Savannah. **$146,640.** Bids 3/14.

†**O., Mansfield**—AIRPORT—U. S. Eng., 830 W. Broadway, Louisville, Ky., construct Air National Guard facilities, incl. warehouse, hangar, boiler house, pump house and water storage reservoir, to Friebel & Hartman, Inc., Shelby. **$433,205.** Bids 3/10, awarded 3/15. CD 2/2—ENR 2/10.

FOREIGN

Australia—State Rivers and Water Supply Comn. of Victoria, receiving bids construct first 8 mi. Goulburn-Waranga No. 2 main channel, incl. 2,400,000 cu. yd. excav.

PUBLIC BUILDINGS

BIDS ASKED

March 29

O., Howland—Bd. Educ., high school. $450,000. CD 9/23/46—ENR 10/3/46.

N. B., Rothesay—T. H. Coop, chn., c/o Bd. School Trustees, Rothesay, 2 story high school. Approx. $300,000. Alward & Gillies, Canada Permanent Bldg., Saint John, N. B., archt. CD 10/17/47—ENR 10/30/47.

March 30

Kan., Syracuse—School Dist. S-1, Hamilton Co., Syracuse, high school. Plans deposit $20. J. W. Radotinsky, 1401 Fairfax Trafficway, Kansas City, archt. CD 8/14/46—ENR 9/9/46.

†**Virginia and Maryland**—Pub. Wks. Office, Naval Gun Factory, Wash., D. C., housing facilities at Dahlgren, Va., Cheltenham and Carderock, Md. Plans deposit $10.

March 31

Fla., Tallahassee—State Bd. Control, First National Bank Bldg., Orlando, dormitory at Florida State University. Guy C. Fulton, 204 Peabody Hall, Gainesville, Ga., archt.

Fla., Tallahassee—State Bd. Control, First National Bank Bldg., Orlando, laundry at Florida A. & M. College. Approx. $75,000. Plans deposit $10. Guy C. Fulton, 204 Peabody Hall, Gainesville, Ga., archt.

Fla., Tampa—Hillsborough Co. Bd. Public Instruction, Tampa, Ruskin School addn. M. Leo Elliott-Eliot C. Fletcher, Penthouse, Citizens Bldg., Tampa, archts. CD 12/9—ENR 1/6.

†**Washington**—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., control cubicle for station-service generator LS3, Grand Coulee Left Power Plant, Columbia Basin Proj., Spec 2558. Extended date. CD 2/8—ENR 2/10.

April

O., Struthers—Bd. Educ., Wm. Nells, clk., Struthers, high school addn., small addns. to Texton St. and Fifth St. bldgs., modernizing all schools. $750,000. Randall Medicus, 314 Federal St. W., Youngstown, archt. CD 11/11—ENR 11/25.

April 1

Minn., Wilmar—State Dpt. Admin., P. I. Peterson, Dir. Purchases, 19 State Capitol St. Paul, receiving bldg., State Hospital, $275,000. Plans deposit $30. Extended date. Magney, Tusler & Setter, 202 Foshey Tower, Minneapolis, archts. CD 2/2—ENR 2/10.

Okla., Oklahoma City—Bd. Educ., 400 N. Walnut St., complete primary school, S. W. 40 St. and Miller Blvd. $250,000. Plans deposit $25. Bramblet & Baldwin, Petroleum Bldg., archts. CD 12/12/45—ENR 2/14/46.

Ore., Roseburg—School Dist. 1, Roseburg, L shaped, 74x177 ft. and 66x133 ft. cavity wall and pumice block, pumice tile and brick veneer Oakland High School. Plans deposit $25. Freeman & Hayslip, Postal Bldg., Portland, Zone 4, archts. CD 10/28—ENR 11/11.

Tex., Denton—City, Bd. Educ., C. O. Strickland, supt., Denton, masonry mechanical shop for Senior High School. $75,000. Plans deposit $25. Wyatt C. Hedrick, 904 Fort Worth Ave., Dallas, archt. CD 10/22/47—ENR 11/13/47.

After April 1

†**Pa., Wilkes-Barre**—U. S. Eng., P. O. Box 1715, Baltimbre 3, Md., hospital standard quarters' bldgs. for Veterans Hospital, incl. manager's residence, 2 staff duplex residences, one nurses' quarters, attendants' quarters, incl. plumbing, heating, interior electrical work, bounded on north by State Hy. New Rt. 169, on west by State Hy. Rt. 515, on south by State Hy. Old Rt. 169, for Veterans Admin., Vermont Ave. between H and I Sts. N. W., Wash., D. C. Plans deposit $25. CD 2/19/48—ENR 2/26/48, under LB.

April 4

N. J., Port Newark—Chief Engineer, Port of New York Auth., 111 8th Ave., New York 11, N. Y., transit shed in Block 10-A, Contr. PN-6; transit shed, Block 10-B, Contr. PN-14. Plans deposit $10 each.

Ore., Shedd—School Dist. 37, Shedd, reinforced concrete high school. Plans deposit $100. Graham B. Smith, Eugene, archt.

April 4

Wis., La Crosse—Bd. Educ., La Crosse, 2 story, bsmnt., 74x293 ft., steel, brick, Jefferson Grade school, concrete fdn. Plans deposit $50. Boyum, Schubert & Sorenson, Hoeschler Bldg., archts.

Ont., St. Catherines—C. T. McBride, 15 Welland St., for Bd. Education, St. Catherines, Edith Cavell School addn. $250,000. T. R. Wiley, 32 Williams St., archt.; Glen Ridge School addn., $250,000. W. Slater, Welland Ave., archt. CD 2/1—ENR 2/3.

April 5

Ga., Greenville—Meriwether Co., Greenville high school. W. J. J. Chase, 140 Peachtree St., Atlanta, archt.

†**Idaho**—Bureau Reclamation, Dpt. Interior, Fairgrounds, House, reconstruction finance office bldg., Spec. RI-39 (Region 1), L. M. McClellan, Bldg. 1A, Denver Federal Center, Denver, Colo., ch. engr. and archt.

Tenn., Spencer — Van Buren Co., Spencer, high school. Plans deposit $50. Wallace & Clemmons, 1907 Division St., Nashville, archts.

Tex., Houston—University of Houston, 701 Fannin St., 1 story, 87x152 ft. structural steel, masonry boiler plant, concrete slab fdn. $90,000. A. C. Finn and office of Lamar Q. Cato, Bankers Mortgage Bldg., archts. Reg. F. Taylor, Bankers Mortgage Bldg., engr. CD 2/26/48—ENR 3/4/48.

April 6

Ark., Arkadelphia—Clark Co. Hospital Comn., Arkadelphia, hospital, $300,000. Plans deposit $50. Wittenberg, Delany & Davidson, Pyramid Bldg., Little Rock, archts. CD 9/25/47—ENR 10/16/47.

April 7

Ark., Fayetteville—Washington Co., Fayetteville, hospital, $300,000. Plans deposit $35. Paul Young, Jr., Fayetteville, archt.

La., Oakdale—Allen Parish School Bd., Oakdale, school. Plans deposit $50. Chas. T. Roberts, Alexandria, archt. CD 9/19/47—ENR 10/2/47.

April 8

Ala., Prichard—Mobile County Bd. School Comrs., Mobile, Vigor High School addns., alterations, $440,000. Plans deposit $50. Edward D. Slater, O'Gwynn Bldg., Mobile, archt. CD 3/21—ENR 3/17.

Tenn., Murfreesboro—Rutherford Co., Central High School. $700,000. Hart, Freeland & Roberts, 3rd Natl. Bank Bldg., Nashville, archts. CD 12/16—ENR 12/30.

April 11

Ky., Hopkinsville—A. Wettstein, supt., and Bd. Directors, Electric Plant Bd., City Hall, electrical substation, equip., electrical voltage transformation bay for electric plant. Plans deposit $25. Allen & Hosahll, 65 McCall Pl., Memphis, Tenn., consult. engrs., adv. ENR 3/24.

April 12

Idaho, Twin Falls—Twin Falls County Hospital, Everett E. Moody, supt., Court House, 5 story, bsmnt., 75x290 ft. general hospital. Approx. $250,000. Fisher & Fisher, 827 Denver National Bank Bldg., Denver, Colo., archts. CD 1/7/48—ENR 1/15/48.

†**Pa., Altoona**—U. S. Eng., 925 New Federal Bldg., Pittsburgh, quarters bldgs. on site of Veterans Admin. Hospital, Serial No. Egg-36-058-49-97, for Veterans Admin., Vermont Ave. between H and I Sts. N.W., Wash. 25, D. C. CD 2/28—ENR 3/10.

Tenn., Cookeville—City, hospital. $450,000. Extended date. Charles H. McCauley, Jackson Bldg., Birmingham, Ala., archt. CD 2/28—ENR 3/3.

†**Virginia**—U. S. Eng., foot of Front St., Norfolk, two 9,400 hp. hydraulic turbines, one 960 hp. hydraulic turbine and governors, Philpott Proj., Smith River, Serial No. Eng-44-110-49-160.

April 13

Md., Baltimore—Mayor & City Council, City Hall, 2 story gymnasium addn. and 5 story Dunbar Junior and Senior High School addn. Plans deposit $100. Wm. Williams, bldg. constr. engr. CD 12/31—ENR 1/20.

Pa., Retreat—Dpt. Property & Supplies, 18 and Herr Sts., Harrisburg, reconditioning Infirmary 1 at Retreat State Hospital. $245,750. Plans deposit $10 for general, $5 for others. Lacy, Atherton, Wilson & Davis, Hotel Sterling Bldg., Wilkes-Barre, archts. L. A. Williams, c/o owner, ch. engr. CD 2/19/48—ENR 2/26/48.

Tenn., Pulaski—Giles Co., Pulaski, hospital. Extended date. Howard, Hickerson & Jordon, 304½ 3 Ave., Nashville, archts. CD 3/4.

Ont., London—J. M. Somerville, secy., c/o Dpt. P. Wks., Hunter Bldg., Ottawa, 2 story, bsmnt. 108x122 ft. L-shaped research laboratory, for Dpt. Agriculture, on University of Western Ontario. Approx. $300,000. G. Brault, c/o owner, archt. CD 3/16/45.

April 14

†**California**—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars Bethany, Calif., one 120 ton transformer transfer car and accessories for Tracy Switchyard, Central Valley Proj., Spec. 2605. L. N. McClellan, ch. engr.

April 15

†**Ky., Fort Knox**—U. S. Eng., 830 W. Broadway, Louisville, 14 brick, wood, concrete houses, incl. water lines, sanitary and storm sewers, electrical distr. sys., roads, and sidewalks. Serial No. Eng-15-029-49-119. Plans deposit $15. CD 10/26—ENR 11/11.

April 19

●**O., Xenia**—Bd. Trustees Greene Co. Hospital, Xenia, 3 story, bsmnt., hospital, county health center. Approx. $1,200,000. Plans deposit $25. Dan A. Carmichael, 5 E. Long St., Columbus, archt. CD 3/17.

April 21

†**Wyoming**—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars Casper, embedded material, one bus structure, three capacitor and wave trap supports, one capacitor tie-down frame and nine transformer tie-downs for switchyard at Kortes Power Plant, Kortes Unit, Missouri River Basin Proj., Spec. 2612.

April 26

Calif., Camarillo—State Div. Architecture, P. Wks. Bldg., Sacramento, 2 story, rein.-con. hospital bldgs. at Camarillo State Hospital incl. 216,000 sq. ft. floor area receiving and treatment unit; 28,000 sq. ft. administration unit; and 27,000 sq. ft. bakery and commissary unit. Plans deposit $25. Anson Boyd, Sacramento, state archt. CD 2/5/45—ENR 3/22/45.

About April 28

●**N. M., Las Cruces**—U. S. Eng., P. O. Box 1538, Albuquerque, 20x24 ft. with wing, 36x102 ft. wing, T-shaped, concrete block, stucco, brick enlisted men's service club; Serial No. Eng-29-005-49-69.

April 28

Va., Montevideo—Rockingham Co. School Bd., Harrisonburg, high school. Plans deposit $75. Clarence Wenger, 85 W. Market St., Harrisonburg, archt.

About May 1

Ala., Decatur—District One Tuberculosis Sanitarium, c/o Charles H. McCauley, archt., Jackson Bldg., Birmingham, TB hospital. $600,000. CD 5/27/47—ENR 6/12/47.

N. Y., East Hempstead—Bd. Educ. Union Free School Dist. 2, California Ave., school addns., alterations, California Ave. $350,000. Frederick P. Wiedersum, 240 Rockaway Ave., Valley Stream, archt. CD 6/13/47—ENR 6/26/47.

●**N. Y., Uniondale (Hempstead)**—Union Free School Dist. 2, Uniondale, Hempstead, school, Goodrich St. $1,193,000. F. P. Wiedersum, 240 Rockaway Ave., Valley Stream, archt.

May 4

●†**D. C., Wash.**—Pub. Bldgs. Admin., Federal Wks. Bldg., federal courts bldg., 3 St. Constitution Ave., John Marshall Pl. and C St. N. W., $18,665,000. Extended date. CD 2/24—ENR 3/3.

LOW BIDDERS

†**Conn., Ansonia**—Office of the U.S.P. & D.O., Connecticut State Armory, Hartford, cancelled bids to have been opened Mar. 22, motor vehicle storage bldg. CD 3/11—ENR 3/17.

†**Conn., Manchester**—Office of the U.S.P. & D.O., Connecticut State Armory, Hartford, cancelled bids to have been opened Mar. 22, motor vehicle storage bldg. CD 3/11—ENR 3/17.

†**Conn., West Haven**—Office of U.S.P. & D.O., Connecticut State Armory, Hartford, cancelled bids to have been opened Mar. 22, motor vehicle bldg. CD 2/11—ENR 3/17.

†**Md. Bethesda**—P. Bldgs. Admin., 1125 Federal Wks. Agency Bldg., Wash., D. C. Mar. 15, Boiler Plant Bldg. 11, National Institute of Health, from Union Iron Wks., 1420 Cascade St., Erie, Pa., **$194,950.**

N. Y., Wantagh—Bd. Educ., Union Free School Dist. 23, Town of Hempstead, Mar. 16, school, Seymour Ave. between Bunker Pl. and DeMott Ave., from John V. Schaefer Constr. Corp., 7 East 42 St., New York, Zone 17, **$374,000.** CD 3/2—ENR 3/10.

O., Youngstown—Bd. Educ., M. I. Butler, clk., 20 W. Wood St., rejected bids Feb. 23, Elm St. School. LB. **$574,873.** CD 2/4—ENR 2/17, under LB.

CONTRACTS AWARDED

●†**Ind., Indianapolis**—Veterans Admin., Vermont Ave. between H and I Sts. N.W., Wash. 25, D. C., hospital and quarters, W. Michigan St., to J. L. Simmons Co., Inc., Union Title Bldg., **$7,766,730 (Correction**—contractor). Bids 3/8. CD 3/10—ENR 3/17, under CA.

Minn., Owatonna—City, P. Utilities Comn., L. H. Haberman, secy., 4000 kw. turbine and condenser piping and auxiliary equip., municipal power plant, to Power Service Corp., 711 Wesley Temple Bldg., Minneapolis. **$109,000.** Bids 3/7. CD 2/15—ENR 2/17.

Neb., Kearney—State Bd. Control, Lincoln, general contract, dormitory at Boys' Training School, to A. Borchman Sons, **4601** Douglas St., Omaha. **$306,409.** Bids 3/10. CD 3/1—ENR 3/3.

●†**N. M., Los Alamos**—U. S. Atomic Energy Comn., Los Alamos, 4 bldgs., grading, paving, outside water, sewer, gas distr. and electricity lines, Zia Motor Pool, Inv. No. 291-49-46, to Robert E. McKee, 60 Lincoln Ave., Santa Fe, Louidermilk Bros., 140 S. Elati St., Denver, Colo., John Woodward, Burbank, Calif., and Raymond Pavery & Son, Los Alamos, N. M., **$1,082,749.** CD 3/15—ENR 3/17, under LB.

N. C., Raleigh—City, Roy S. Braden, mgr., motor vehicle maintenance depot, N. Dawson St. exten., to J. M. Thompson, 304 S. Salisbury St., **$74,570.** Bids 3/15. CD 3/8—ENR 3/10.

O., Troy—Bd. Educ., Troy, Forest School, Canal St., to Charles H. Shook, Inc., 582 W. 2 St., Dayton. **$369,813.** CD 11/12/47—ENR 11/27/47.

O., Washington Courthouse—Fayette Co. Memorial Hospital, Washington Courthouse, general contract, 1 story hospital, to Sever-Williams, Washington Courthouse. **$319,204.** Ischo, Brand & Ischo, 60 E. Broad St., Columbus, archts. CD 11/16/45—ENR 1/3/46.

Va., Front Royal—Warren Memorial Hospital, Front Royal, Warren Memorial Hospital, to Wise Contg. Co., Eighth and Grace Sts., Richmond. **$621,450.** Bids 3/9. CD 3/16—ENR 3/24, under LB.

COMMERCIAL BUILDINGS

BIDS ASKED

March 31

Ga., Atlanta—St. Joseph Infirmary, c/o Abreu & Robeson, archts., 22 Marietta St. Bldg., Atlanta, hospital addn. Over $250,000. CD 11/15/46—ENR 11/28/46.

La., Baton Rouge—Bendernagel & Cazale, archts., 8 Marlborough Gate, New Orleans, 2 story, brick parochial school addn., for Sacred Heart Church, 2250 Main St.

Pa., Pittsburgh — Monongahela Connecting Railroad, 311 Ross St., 2 story, bsmnt., approx. 35x65 ft. engineering office addn. $75,000.

April 5

Neb., West Point—Sisters of Christian Charity, West Point, memorial hospital. $750,000. Leo A. Daly Co., Insurance Bldg., Omaha, archt. CD 1/7/48—ENR 1/22/48.

April 6

O., Columbus—Corpus Christi Church, Linwood and Stewart Sts. brick, tile, concrete block, steel frame church, rein.-con. addn. $300,000. Ramsey & Croce, 6 W. Frambes St., archts.

April 12

Ala., Cullman—Seventh Street Baptist Church, c/o Charles H. McCauley, archt., Jackson Blvd., Birmingham, 3 story church.

Ill., Chicago — Michael Reese Hospital, 30 and Ellis Sts., 4 story, brick, steel, concrete, stone psychiatric and psychosomatic institute. Loebl Schlossman & Bennett, 333 N. Michigan St., archts. CD 10/13—ENR 10/14.

April 15

Mich., Benton Harbor—Mercy Hospital Assn., Benton Harbor, 3 story brick, rein.-con. hospital addn. Schmidt, Garden & Erikson, 104 S. Michigan St., Chicago, archts. CD 11/12/45—ENR 12/27/45.

●**Okla., Oklahoma City** — Medical Research Foundation, W. T. Payne, pres., Braniff Bldg., medical research foundation at N.E. 13 and Kelley Sts. Approx. $1,000,000. Plans deposit $50. Coston & Frankfurt, Apco Tower, archts. CD 11/12/47—ENR 11/20/47.

April 20

La., New Orleans—Wm. R. Burk, archt., Pan American Bldg., 4 story, 20x57 ft. masonry school addn., for Mater Dolorosa School, 1200 S. Carrollton Ave. Plans deposit $25.

April 28

Tex., Abilene — McMurray College, Abilene, student life center. $350,000. Plans deposit $25. Bids 10/5 rejected L.B. **$352,994.** Davida S. Castle Co., 1082½ N. 1st St., archt. CD 10/12—ENR 10/14, under LB.

Bids Asked

Ind., Fort Wayne—International Order Odd Fellows Lodge 14, Fort Wayne, 2 story, bsmnt., 63x70 ft. concrete, brick, granite lodge, E. Jefferson St. $250,000. A. M. Strauss, 415 Cal-Wayne St., archt.

SOON LETS CONTRACT

Ala., Birmingham — Vanderbilt Garden Apartments, Inc., c/o Pembleton & Mims, archts., Title Guarantee Bldg., soon lets contract 118 apartment units, approx. $250,000. CD 3/9—ENR 3/17.

Ill., Evergreen Park — Peace Memorial Church, c/o A. F. Heine & Assoc., archts., 7919 S. Ashland St., Chicago, soon lets contract 1 story, brick, steel hospital. $350,000. CD 2/25—ENR 3/10.

O., Columbus — St. Catherine's School and Parish Hall, S. Gould Rd. and Fair Ave., soon lets contract brick, concrete block, structural steel school. $350,000. Ramsey & Croce, 6 W. Frambes St., archts.

CONTRACTS AWARDED

Fla., Hollywood—Washington Square Corp., c/o contractor, several residential developments, to Ross Constr. Co., P. O. Box 34, Ft. Lauderdale Approx. **$250,000.**

Fla., Miami Shores—Shores Plaza, Inc., c/o contractor, 42 apartment units, to Griffin-Cartledge, 108 N. E. 101 St., Miami Shores. Approx. **$250,000.**

Ga., Atlanta—Knox Georgia Homes, Thomson, residential development, Owner builds. Approx. **$250,000.**

Mass., Springfield — Massachusetts Mutual Life Insurance Co., 1295 State St., 4 story office bldg. addn., to Turner Constr. Co., **38 Newbury** St., Boston, Zone 16. Cram & Ferguson, 248 Boylston St., Boston, archts.

Miss., Jackson—Lakeland Apartments, Inc., c/o contractor, 48 apartment units, to Realty Constr. Co., 307 S. 18 St., Birmingham, Ala. Approx. **$400,000.** CD 1/26—ENR 2/17.

Mo., St. Ann (St. Louis Zone 14, P. O.)—Joseph H. Vetterott Realty & Building Co., 10253 St. Charles Rock Rd., St. Louis, Zone 14, 110 brick, frame, stucco houses, St. Ann Hills No. 2, St. Louis Co., own forces. Approx. **$800,000.**

O., Columbus—Bob Byers & Son, 81 N. 3 St., 100 pre-fabricated dwellings, incl. 420 two bedroom dwellings, **$6,500** each; 60 three bedroom units, **$7,600** each, in Chaseland Addn. near Colonial Hills. Owner builds.

Okla., Tulsa—V. L. Mudd Constr. Co., 4214 S. Peoria St., Grace Ellen Hights Homes development, 45 St., 45 Pl., Riverside Dr. and Peoria Ave., own forces. Approx. **$800,000.**

●**Tenn., Nashville**—Mid State Baptist Hospital, 2000 Church St., 4 story, 44x220 ft., rein.-con., brick, block exterior stone trimmed to Oman Constr. Co., Acklen Park, Nashville Approx. **$1,000,000.** CD 1/26—ENR 1/29.

Tex., Hughes Springs—Lone Star Constr. & Development Co., 2632 Swiss St., Dallas, housing, Lakeview Addn. Owner builds. **$325,000.** CD 12/10—ENR 12/23.

Tex., Port Neches—J. M. Morgan, 2039 Norfolk St., Houston, and George Melton, Beaumont, approx. 40 dwellings, **$550,000;** 45 dwellings, in Magnolia Addn. **$425,000,** own forces. CD 6/24—ENR 7/8.

INDUSTRIAL BUILDINGS

BIDS ASKED

March 31

Minn., Red Lake Falls—WAREHOUSE, etc. —Red Lake Electric Co-operative, O. Overmoen, mgr., 1 story, brick, steel warehouse, office and garage. $100,000. Plans deposit $15. Long & Thorshov, 400 Metropolitan Life Bldg., Minneapolis, archts. CD 10/14—ENR 10/28.

April 7

Tex., San Antonio — WAREHOUSE — Merchants Biscuit Co., 307 N. Medina St., 100x150 ft., steel warehouse, concrete slab fdn., summer and winter air-conditioning, etc. $140,000. Cornell G. Curtis, 6521 Dallas Hy., Austin, and McCracklin & Hiett, Hutchinson, Kan., archts. CD 1/14—ENR 2/3.

April 4

Ont., Toronto—SERVICE STATIONS—Shell Oil Co. of Canada Ltd., 25 E. Adelaide St., ten 30x58 ft. service stations.

Que., Montreal — SERVICE STATIONS — Shell Oil Co. of Canada Ltd., 25 E. Adelaide St., Toronto, Ont., ten 1 story, 30x58 ft. service stations. $400,000.

April 6

Ont., Kitchener—TERMINAL—W. C. McBrien, 35 Yonge St., Toronto, bus terminal, Joseph St., for Gray Coach Lines, 35 Yonge St., Toronto. $100,000.

Que., Montreal—PLANT—Royal Stuart Beverages, 1267 William St., 2 story, bsmnt., concrete, steel, brick plant, Decarie Blvd. $110,000. Luke, Little & Mace, 1410 Guy St., archts.

About April 15

Tenn., Fayetteville—PLANT—Kraft Foods Co., 500 N. Peshtigo St., Chicago, Ill., cheese plant. $300,000. CD 2-11—ENR 3/17.

Bids Asked

Nev., Gerlach—FACTORY—U. S. Gypsum Co., 300 W. Adams St., Chicago, Ill., steel plasterboard factory. $250,000. CD 3-7.

SOON LETS CONTRACT

●**Colo., Denver**—WAREHOUSE—Western Electric Co., Inc., 1175 Osage St., soon lets contract 1 story 250x400 ft. warehouse, E. 40 Ave. between Columbine and Clayton Sts. $2,000,000. Robert & Schaefer, 130 N. Wells St., Chicago, Ill. archts. CD 2-23—ENR 3/3.

Tex., Dallas—SHOP—Ed. Maher, 420 N. Harwood St., soon lets contract masonry auto shop remodeling and expan. $75,000. John H. Dunnam, 2618 Cedar Springs Rd., archts. CD 12/27—ENR 1-20.

Tex., San Antonio—REPAIR SHOP—O. F. Mitchell Motors, 1041 Navarro St., soon lets contract masonry auto sales, shop, service, repair, parts bldg. $250,000. Harry Cooke, 2001 Broadway, archt. W. E. Simpson Co., Milam Bldg., structural engr. Halsey & Rowe, Transit Bldg., engrs. CD 12-15—ENR 12-20.

CONTRACTS AWARDED

●**Mo., Poplar Bluff**—GENERATING UNITS—M. & A. Electric Power Co-operative, Poplar Bluff. Sect. 1, 2 generating units, to Cooper-Bessemer Corp., Mount Vernon, O., **$987,050** ***distr. transformers, to Gregory Electric Co., 2535 S. State St., Chicago, **$81,255**** sub-stations, to Railway & Industrial Engrg. Co., 105 W. Adams St., Chicago, **$80,500.** Grand total $1,148,805. Bids 3/8. CD 2/17—ENR 2-24.

Mo., St. Louis—PLANT—F. Burkhart Mfg. Co., 5000 N. 2 St., Zone 7, 1 story, 24x111 ft. concrete, steel, plant addn., 341 Gano Ave. to Willingham Constr. Co., 5701 Vernon Ave., Zone 12. Meyer & Eason, 3800 W. Pine Blvd., Zone 8, archts.

Neb., McCook—GRAIN ELEVATOR—McCook Equity Exchange, McCook, grain elevator, to Osborn-Mayer Co., 1717 E. Colfax Ave., Denver, Colo., **$120,000.**

●**O., Ashtabula**—PLANT—National Distillers Chemical Corp., 120 Broadway, New York, N. Y., design and construction chemical plant producing metallic sodium and chlorine, on 55 acre tract, State Rd., to Sanderson & Porter Co., 52 William St., New York, N. Y. Approx. **$10,000,000.** CD 1/4—ENR 1/29.

O., Columbus—PLANT—Felber Biscuit Co., 392 Grant Ave., plant addn., to R. W. Setterlin & Sons Co., 1030 W. 3 Ave., Approx. **$150,000.**

O., Newark—BAKERY—Omar Bakeries, G. W. Tassie, mgr., 391 E. Moler St., Columbus, 1 story, 88x110 ft. masonry distribution **branch** bldg., to David E. Gardner, Newark. CD 12/30—ENR 1/20.

O., Toledo—SERVICE STATIONS—Sinclair Refining Co., 135 S. La Salle St., Chicago, Ill., 4 service **stations,** to J. Huntley & Sons Co., 201 Belmont St., Approx. **$150,000.**

Tex., Hearne—COTTON COMPRESS—Brazos, Bryan, imprv., expanding cotton compress, force account. **$75,000.**

Ont., Niagara Falls—PLANT—International Silver Co., 263 River Rd., 1 story, 133x200 ft. steel, brick, plant addn., River Rd., to Robertson Constr. & Engrg. Co. Ltd., 512 Clifton Ave., **$130,000.** N. Mann, 1995 **Franklin** Ave., archt. CD 1/21/47—ENR 1/23/47, under LB.

Ont., Toronto—PLANT—G. W. Dyke Co., Inc., 374 Parliament St., 16x100 ft., concrete, brick plant, to W. G. How Contg. Co., **246** Donlands Ave., approx. **$70,000.**

Ont., Toronto—PLANT—A. W. Godier Printing Co., 113 St. Patrick St., 1 story, 40x100 ft. concrete, brick plant, to W. G. How Contg. Co., 246 Donlands Ave., Approx. **$70,000.**

Ont., Windsor—PLANT—Ford Motor Co. of Canada Ltd., 2789 Sandwich St., remodeling plant, to Dinsmore-McIntire Ltd., 1204 Canada Bldg., Approx. **$120,000.** W. R. L. Blackwell & Craig, Bank of Commerce Bldg., Peterborough, archt. CD 2-14—ENR 2-24.

Que., Montreal—GARAGE—A. Finestone, Inc., 3446 Vendome Ave., 3 story, bsmnt., 64x99 ft. concrete, steel, brick, garage, St. Denis St. Owner builds. **$125,000.**

UNCLASSIFIED

BIDS ASKED

Ia., Ames—STORAGE SHEDS—State Hy. Dpt., Ames, remodeling Storage Sheds 3 and 4 incl. electric wiring, heating and plumbing, on Hy. Comm. grounds. Over $50,000. F. R. White, ch. engr.

†Neb., Omaha—FREEZE-THAW SYSTEM—U. S. Eng., 1709 Jackson St., Omaha, **freeze-thaw sys.** in Govt. owned bldg., 18 and **Howard** Sts., Eng. 25-066-49-199.

South Carolina—RURAL DISTRIBUTION LINES—Pee Dee Electric Co-operative, Inc., Darlington, 171.45 mi. rural distr. lines, Chesterfield, Darlington, Florence and Lee Counties. Plans deposit $25. Southern Eng. Co., 699 Spring St., N. W. Atlanta, Ga., engr. CD 12/31—ENR 1/20.

March 30

Alabama—RURAL DISTRIBUTION LINES—Franklin Electric Co-operative, Russellville, 153.7 mi. rural distr. lines, incl. 128.1 mi. primary lines, 12.9 mi. secondaries and 12.7 mi. services living in north half of Franklin Co. and small portion in southern part of Colbert Co. Plans deposit $25. Ladd Eng. Co., 209 Wood Bldg., Ft. Payne, engr. CD 1/14—ENR 2-3.

†Colorado—TRANSMISSION LINE—**Bureau** Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, constructing Flatiron-Greeley 115 kilovolt transmission line approx. 26 mi. Colorado-Big Thompson Proj., Weld Co., Spec. 2551. Extended date. CD 2/2—ENR 2-10.

Mass., Monson—FIRE PROTECTION, SPRINKLER SYSTEM, etc.—Commonwealth of Mass., Clifton, T. Perkins, Dpt. Mental Health, 100 Nashua St., Boston, fire protection, Contr. 1, sprinkler sys., Contr. 2, electric wiring, Hospital P-M 11, Monson State Hospital, Frank Irving Cooper Assoc., 554 Pleasant St., E. Milton, engrs. CD 11-9-45—ENR 12/27/45, under Public Bldgs.

South Dakota—RURAL DISTRIBUTION LINES—McPeak-Grand Electric Co-operative, Timber Lake, constructing "A" sect. 204 mi. rural distr. lines, Dewey Co. $200,000. Scott Eng. Co., Box 312, Watertown, engr. CD 3/21/47—ENR 9-18-47.

March 31

†Arizona and Nevada—STRUCTURAL STEEL—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing del. f.o.b. cars shipping point of f.o.b. cars Kingman (Lauzet), Ariz., miscellaneous structural steel for Davis Power Plant, Davis Dam Proj., Spec. 2611. L. N. McClellan, ch. engr.

March 31

Missouri—RURAL DISTRIBUTION LINES—Crawford Electric Co-operative, Inc., S. H. Hicks, pres., Bourbon, 240.66 mi. rural distr. lines, Crawford, Franklin, Washington, Gasconade and Dent Counties, Proj. Missouri 54H Crawford. Bids Mar. 10 rejected. L. B. **$97,533.** Barenbaum & Smith, 5968 Cote Brilliante Ave., St. Louis, Zone 12, engrs. CD 2/18—ENR 2/24.

About April 1

Ala., Sheffield—SWIMMING POOL, etc.—City, Sheffield swimming pool and bath house. Vernon P. Crockett, P. O. Box 797 engr.

April 4

N. S., Halifax—PIER—C. F. Buckley, secy., c/o National Harbor Bd., West Block, Ottawa, Ont., reconstruction Pier 3, Halifax Harbor. Approx. **$800,000.** Plans deposit $100.

April 5

Ala., Montgomery—GAS LINES—Montgomery Housing Auth., 528 Bell St., gas lines in Housing Project H-2202.

Ala., Sheffield—SWIMMING POOL, etc.—City, City Hall, swimming pool with filtering sys. and bath house complete. Plans deposit $25. Vernon P. Crockett, Engineers, State National Bank Bldg., engrs. CD 3/14—ENR 3/17.

Calif., Petaluma—LIVESTOCK BLDGS—State Div. Architecture P. Wks. Bldg., Sacramento, 2 sheep and swine bldgs., cattle barn, poultry bldg., judging ring for 34th District Agricultural Assn. Plans deposit $25. Anson Boys, state archt.

Calif., San Luis Obispo—BLEACHERS—State Div. Architecture, P. Wks. Bldg., Sacramento, completion bleachers at California State Polytechnic College. Plans deposit $25. Anson Boyd, state archt. CD 2/28/45—ENR 3/18/45.

†Montana—TRANSMISSION LINES—Bureau Reclamation, Dpt. Interior, Fort Peck, overhead ground wires, for Glendive to Miles City 115 kilovolt transmission line, Fort Peck Proj. Fort Peck, between Glendive and Miles City Spec. 2601. L. N. McClellan, ch. engr.

†N. M., Los Alamos—RADIO TRANSMITTER STATION—U. S. Atomic Energy Comm., Joseph R. Furan, Chief Contract Branch, Los Alamos, radio transmitter station and transmission line, Inv. No. 291-49-86.

†Va., Fort Belvoir—PLATFORMS, etc.—U. S. Eng., Fort Belvoir, concrete platforms, asph. concrete loading strips, construct concrete loading strips, concrete steps and removing wood platforms, **piers, steps, etc.,** Serial No. Inv. W-44-008-49-73.

April 6

Georgia—RURAL POWER LINES — Altamaha Electric Membership Corp., Lyons, 586.16 mi. rural power lines in Emanuel, Laurens, Montgomery Treutlen and Toombs Counties. Plans deposit $25. Southern Eng. Co., 699 Spring St., N. W., Atlanta, engrs. CD 9/16—ENR 9-23.

†Md., Cumberland—LIGHT and POWER SERVICE—P. Wks. Office, Fifth Naval Dist., U. S. Naval Base, Norfolk, Zone 11, Va., removal secondary electric service conductors, installing underground electric service cable, rearranging water pumphouse service, earthwork concrete, constr., electrical work, etc., Naval Reserve Training Center, Spec. 21206. Plans deposit $10. Extended date. CD 12/7—ENR 12/16.

†Mississippi and Louisiana — CONCRETE MATTRESS — U. S. Eng., P. O. Box 60, Vicksburg. 150,000 squares articulated concrete mattress, Greenville, Mississippi Casting Field, and 50,000 squares at Delta, Louisiana Casting Field, or 200,000 squares at Greenville, Mississippi Casting Field.

April 11

†Alaska—RAILROAD IMPRVS.—The Alaska Railroad, Dpt. Interior, Anchorage, **raising** entire sect., eliminating sags, **widening banks** and cuts for 20 ft. roadbed, **exten.,** raising numerous culverts, raising 57 **bridge bents** on 35.3 mi. Alaska R. R. Healy to Clear; raising sags, lowering grad some locations, embankment and cut widening, numerous culvert exten., and raising 69 bridge bents and subsidiary bulkhead alterations, exten. siding on 21 mi. Alaska R. R., Chulitna to Colorado; raising entire track, elimination of sags, widening embankments and cuts, exten. and raising sidings and constructing 8 line **changes** on 21.4 mi. Alaska R. R. Curry to Canyon; raising entire trackage, elimination of **sags,** further widening embankments and cuts to 20 ft. standard, railing 17 bridge bents, constructing three line changes 26.1 mi. Alaska R. R., Colorado to Cantwell; **widening** embankments and few cuts, raising tracks, elimination of sags, replacing trestles, construcing several line changes, raising 16 bridge bents, installing 2 new bulkheads, exten. Potter siding and raising Chester Creek bridge 4 ft. on 12 mi. Alaska R. R., Potter to Anchorage; raising track, elimination of sags, widening cuts, constructing **several** line changes, raising 70 bridge bents, constructing 22 new bulkheads and altering 4 old ones 27.4 mi. Alaska R. R., Wasilla to Willow. CD 1/4—ENR 1/7.

April 13

†Colorado—TRANSMISSION LINE—Bureau Reclamation, Dpt. Interior, Bldg. 1-A Denver Federal Center, Denver, constr. 115 kv. and 69 kilovolt transmission line, Colorado-Big Thompson Proj., between Rush and Yuma, Spec. 2555. Extended date. L. N. McClellan, ch. engr. CD 2/7—ENR 2-24.

†Georgia and South Carolina—OUTDOOR LIGHTING, etc.—U. S. Eng., Post Office Bldg., Savannah, Ga., installing outdoor lighting and elevated tank water level control, Clark Hill Proj., Savannah River Basin, Savannah River, Serial No. Eng-09-132-49-160.

April 14

†Washington—LIGHTING UNITS—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., furnishing, del. f.o.b. cars shipping point or f.o.b. cars Odair, 65 fluorescent-lighting **troffer units,** louvered type; 8 incandescent-lighting units, recessed or flush type for Grand Coulee Right Power Plant, Columbia Basin Proj. Spec. 2610.

About April 15

†N. C., New Bern—CEMETERY—U. S. Eng., Post Office Bldg., Savannah, Ga., constructing, completing addnl. facilities at **New** Bern National Cemetery.

April 15

†North Dakota—RAILROAD—U. S. Eng., Fort Lincoln, Box 300, Bismarck, access railroad and addnl. trackage for Garrison Dam and Reservoir Proj., Eng.-32-015-49-77. CD 3/1/44—ENR 6/15/44.

April 18

La., Thibodaux—SWIMMING POOL—City, City Hall, swimming pool, Over $50,000. J. B. McCrary Engrg. Co., 22 **Marietta** St. Bldg., Atlanta, Ga., engr. CD 11/8.

April 18

New York—BLOCK SIGNALING EQUIPMENT—Bd. Transportation, 250 Hudson St., New York, Zone 13, furnishing, del. block signaling equip. for Hillside Ave. Exten. from W. Parsons Blvd. Station to 184 Pl., Queens Boro. CD 8/31/45—ENR 9/20/45.

North Dakota and Minnesota—SUBSTATIONS, etc.—Minnkota Power Co-operative, Grand Forks, seventeen 69/12.5 kv. step-down substations and between 60 and 70 three way switching structures. M. H. Gebhardt, c/o owner, substation engr. CD 11/19—ENR 12/30.

April 19

†Idaho—TRANSMISSION LINES—Bureau Reclamation, Dpt. Interior, Idaho Falls, 44 mi. 115 kv. and 3.3 kv. and 4.3 kv. transmission lines, Goshen to Palisades, Spec. R1-40 (Region 1), Palisades Proj. Extended date. L. N. McClellan, Bldg. 1A, Denver Federal Center, Denver, Colo., ch. engr. CD 1/13.

†Kentucky—CEMETERY REMOVAL—U. S. Eng., P. O. Box 2127, Huntington 18, W. Va., cemetery removal, Dewey Reservoir Proj., Johns Creek, Serial No. Eng.-46-022-49-108.

April 29

†Arizona and Nevada—SWITCHING STATION—Bureau Reclamation, Dpt. Interior, Aviola Bldg., P. O. Box 392, Phoenix, Ariz., 34,500 volt Yuma-Mesa Switching Station at Yuma, Ariz., on lots 18, 19 and 20 on 11 Ave. south of 16 St., Spec. 2604. L. N. McClellan, Bldg. 1-A, Denver Federal Center, Denver, Colo., ch. engr.

†N. C., Camp Lejeune (Br. NewBern)—FIELD HOUSE—Pub. Wks. Office, Bldg. 1005, Marine Barracks, field house, etc. at Marine Barracks, Spec. 21978. Plans deposit $40.

April 30

†Idaho—POWER TRANSFORMER—Bureau Reclamation, Dpt. Interior, Bldg. 1A, Denver Federal Center, Denver, Colo., one 3,333 kva, 132,000 grounded wye/76,200 to 33,000 delta-volt, single phase, 60 cycle, oil-immersed, self-cooled, outdoor, power transformer, interconnection substation, Idaho Power Co., Minidoka Proj., Spec. 2609. Plans deposit 25c. L. N. McClellan, ch. engr.

About May 11

†West Virginia — TRAVELING GANTRY CRANE—U. S. Eng., Madison Ave. and 8 St. W., Huntington, traveling gantry crane for Bluestone Dam, Bluestone Reservoir Proj., New River.

About June 1

Ill., Manteno—STEAM TUNNEL—Dpt. P. Welfare, Exec. Officer, Springfield, steam tunnel and piping extens., Manteno State Hospital. $150,000. C. Herrick Hammond, State Armory, Springfield, archt. CD 4/9/45—ENR 4/19/45.

Bids Asked

●Texas—GAS PIPELINE—United Gas Pipe Line Co., Fairfield Ave., Shreveport, La., 165 mi. 20 in. welded joint natural gas pipeline carrier between vicinity of Victoria and Refugio to San Antonio City limits. $4,700,000. CD 5/9/47.

LOW BIDDERS

North Dakota — RURAL DISTRIBUTION LINES—Capital Electric Co-operative, Bismarck, rejected bids Mar. 3, 369 mi. (C Sect.) rural distr. lines, Burleigh Co. LB $465,398. CD 3/17—ENR 3/24, under LB.

CONTRACTS AWARDED

Arkansas—RURAL DISTRIBUTION LINES—Mississippi County Electric Co-operative, Blytheville, 141.6 mi. rural distr. lines, Mississippi Co. Owner builds. Est. over $100,000. CD 3/4—ENR 3/17.

Florida—RURAL DISTRIBUTION LINE—Escambia River Electric Co-operative, Jay, rural distr. lines extens. improvs. Owner builds. $135,000. CD 8/25/48—ENR 9/2/48.

Ill., Danville—DRIVE-IN-THEATRE—Cascade Amusement Corp., c/o Roy O'Keefe, pres., Bloomington and Vincennes, drive-in theater, 28 acre site on Rt. 1, Dixie Hy., to E. S. Moore & Son, Vincennes. Approx. $150,000. CD 8/12—ENR 8/26.

Neb., Norfolk—GRANDSTAND, etc.—City, general contract grandstand, bleachers at Memorial Park Recreation Field, to Western School Supply Co., 72 W 2 South St., Salt Lake City, Utah. $49,905.

Texas—BUTANE DISTRIBUTION SYS. etc.—Lone Star Gas Co., 1915 Wood St., Dallas, butane distr. sys., $300,000; natural gas service lines between buildings and mains, $265,000, own forces. CD 1/26—ENR 2/17.

Texas—GAS MAINS—United Gas Pipe Line Co., 1525 Fairfield St., Shreveport, La., natural gas mains, Austin area, force account $225,000. CD 12/1—ENR 12/30.

Tex., Abilene—RADIO STATION—Hardin-Simmons University, Abilene, FM radio broadcasting station, own forces. $75,000.

Tex., Beeville—RADIO STATION—John D. Rossi, Beeville, radio broadcasting station, own forces. $55,000.

Tex., Victoria—RADIO STATION—Truman Belcher & Assoc., Victoria, radio station and transmitter, own forces. Approx. $75,000.

PROPOSED PROJECTS

UNCLASSIFIED

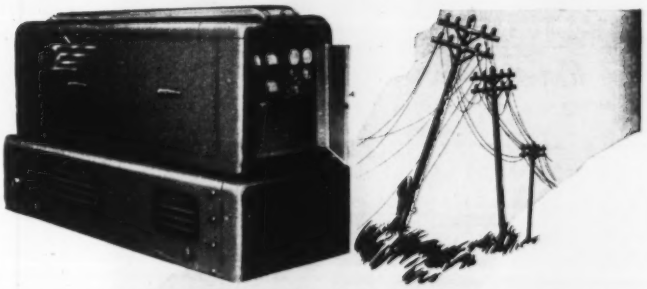
●Minnesota—RURAL DISTRIBUTION LINES—P. K. M. Electric Co-operative, Warren, mgr., R. A. Graham, 852 mi. rural distr. lines, sys. improvs., Polk, Kittson and Marshall Counties, $1,418,000. Ellerbe & Co., E. 505 First National Bank Bldg., St. Paul, engrs.

Montana and Wyoming—OIL PIPELINE—Interstate Oil Pipe Line Co., 311 N. Broadway, Billings, 70 mi. 12 in. crude oil pipeline, from Elk Basin field in northern Wyoming and southern Montana to Farmers Union Refinery at Laurel, Mont., and new Carter Oil Co. refinery at Billings, Mont., pumping station at Elk Basin, etc. F. R. Ball, c/o owner ch. engr.

●New Mexico — RURAL DISTRIBUTION LINES—Lea County Electric Co-operative, Inc., Lovington, plans by Price & Hawk, engrs. and archts., 1509 13 St., Lubbock, Tex., 773.6 mi. rural distr. lines, sub-stations, etc., Lea Co. $1,000,000. CD 4/7—ENR 4/28.

N. Y., New York — PLAYGROUND — Dpt. Parks, Arsenal Bldg., plans by Gustave Chirlian, c/o owner, playground and memorial site adjacent to P. S. 114, in area between Cherry and Monroe Sts., west of Katherine St. $249,500.

●North Dakota — RURAL DISTRIBUTION LINES—Cass County Electric Co-operative, Kindred, rural distr. lines, Cass, Barnes, Ransom and Richland Counties. $1,625,000. Ulteig Eng. Corp., 1114½ Front St., Fargo, consult. engrs. CD 3/18/48—ENR 4/15/48.



Guard Against Costly Power Failures with

ONAN STANDBY

ELECTRIC PLANTS

When power fails, business comes to a standstill. Materials in process are wasted, men and machines stand idle, lives may be endangered. Prevent the disastrous effects of power failure with a low-cost, easy-to-install Onan Standby System. The generating plant starts automatically when commercial power fails, takes over the power load without interruption, stops automatically when power is restored. Many models: 350 to 35,000 watts, A.C.

ELECTRIC PLANTS

Write for Catalog

D. W. ONAN & SONS INC.

5388 Royalston Ave. • Minneapolis 5, Minn.

Onan PRODUCTS

ONAN STANDBY POWER

DRILLING CONTRACTORS

DIAMOND AND SHOT CORE BORINGS — DRY SAMPLE BORINGS

Foundation Testing for Bridges, Dams and all Heavy Structures

Also

Manufacturers of Diamond and Shot Core Drills, Accessories and Equipment

SPRAGUE & HENWOOD, Inc.

Scranton, Pa. Dept. E, U. S. A.

ATLAS CONCRETE FORMS

WALLS • CYLINDERS • FLOORS • SEWERS

Irvington FORM & TANK CORP. Irvington, N. Y.

"Gunite" ..... the sand-cement product of the "CEMENT GUN," for Concrete and Masonry Repairs, Pre-Stressed Tanks, Steel Encasement and for lining Reservoirs, Sewers and Tunnels.

CEMENT GUN COMPANY

"GUNITE" CONTRACTORS

GENERAL OFFICES—ALLENTOWN, PENNA., U.S.A.

MANUFACTURERS OF THE "CEMENT GUN"

CONSTRUCTION REPORTS— Third Section

WATER SUPPLY

BIDS ASKED

April 6

✦N. M., Los Alamos—U. S. Atomic Energy Comm., Los Alamos, water line imprvs., Inv. No. 291-49-125. Plans deposit $25. Black & Veatch, Los Alamos, engrs. and archts.

April 12

Man., Virden—E. Anderson, Town Hall, elevated water tank, watermains, hydrants, pump, machinery and storage reservoir, for Municipality. Plans deposit $20. T. J. Porter, Portage la Prairie, engr. CD 4/27/44—ENR 5/18/44.

May 6

Tex., Tyler—City, Bill Taylor, mgr., misc. work at raw water pumping station at Lake Tyler. $90,000. Plans deposit $25. T. C. Forrest, Jr., Practorian Bldg., Dallas, engr. CD 4/16/47—ENR 4/24/47.

LOW BIDDERS

Calif., Glendale—City, 613 E. Broadway, Mar. 10. Glenoaks 988 rein.-con. 9 m.g. reservoir, from Peterson & Baker, 6314 Santa Monica Blvd., Los Angeles, **$433,715.** CD 2/5.

CONTRACTS AWARDED

Okla., Oklahoma City—Oklahoma Industries, Inc., First Natl. Bldg., watermains serving Oklahoma Industries Industrial Dist., to Sherman Iron Works Co., 16 E. Main St., **$57,533.** Est. $65,000. Awarded 3/19. Lee M. Bush & Co., Colcord Bldg., Zone 2, engrs. CD 11/15—ENR 12/23.

SEWERS, WASTE DISPOSAL

BIDS ASKED

April 7

Tex., San Antonio—City, James W. Knight, Street Comr., Sect. 4, Salado Creek Sewer main, sanitary sewer line, serving East Side, in Coliseum, Ft. Sam Houston, Brooks Field, Willow Springs, Golf Course areas. $175,000. Plans deposit $25. Beavers & Lodal, 1422 Transit Tower, engrs. CD 12/15/47—ENR 12/25/47.

April 12

Kan., Osawatomie—State Rd. Social Welfare, Topeka, sewage plant, manholes, wet and dry wells, fencing, outlet road, run electric power sys. to plant, State Hospital. $60,000. C. L. Marshall, Topeka, state archt.

Man., Virden—E. Anderson, Town Hall, sewers, sewage disposal plant, lift station, for Municipality. Plans deposit $20. T. H. Porter, Portage La Prairie, engr. CD 9/22—ENR 10/28.

May 9

Calif., Yuba City—City, City Hall, Unt. 2, sewage treatment works of municipal sewage disposal proj., incl. primary sewage and industrial waste treatment plant and pump plant, approx. $50,000. Plans deposit $25. George W. Reed, City Hall, city engr. Harry N. Jenks, 63 Crescent Dr., Palo Alto, consult. sanitary engr. CD 4/26/48—ENR 5/13/48.

LOW BIDDERS

Calif., Sacramento—Sacramento Co. Courthouse, Mar. 14, sewage pumping plant and force main, to Sacramento Constr. Co., Sacramento, **$55,478;** outfall sewers for Sanitary Dist. 1, from Teichert & Sons, Inc., Box 1113, Sacramento, **$141,066.** CD 2/23—ENR 3/3.

Calif., San Francisco—Dpt. P. Wk., City Hall, Mar. 16, Lake St. sewerage sys., Sect. B, from 17 to 7 Aves., from Charles L. Harney, 575 Berry St., **$253,863.** CD 2/15—ENR 2/15.

Kan., Kingman—City, City Hall, Mar. 8, sewers, from Rhoades Constr. Co., 413½ Main St., Newton, **$121,804;** sewage plant, from Southern Constr. Co., Box 1041, Oklahoma City, Okla., **$115,910.** CD 2/8—ENR 2/10.

Tex., San Antonio—City, James W. Knight, street comr., Mar. 17, 1st Sect. East Side Sewer Line, 30 in. depressed main, from Calf Creek Disposal Plant on Rolling Rd., from H. B. Zachry Co., P. O. Box 2570, **$135,800.** Est. $200,000. CD 3/4—ENR 3/10.

CONTRACTS AWARDED

Md., Baltimore—Mayor and City Council, City Hall, brick, steel, concrete Jones Falls Sewage Pumping Station, Sanitary Contr. 378, to The Frank Angelozzi Constr. Co., 123 S. High St., **$504,978.** Bids 3/9, awarded 3/16. CD 3/15—ENR 3/17, under LB.

BRIDGES

BIDS ASKED

STATE HIGHWAY LETTINGS

March 29	**April 1**
Iowa	**Kansas**
Massachusetts	**Missouri**
North Carolina	**April 14**
March 30	**California**
Maine	
New York	

March 31

Ont., Windsor—C. G. Russel Armstrong, engr., 6 Bartlett Bldg., rein.-con. steel bridge, for Tilsbury East Twp., Windsor. CD 8/15—ENR 8/19/43.

April 2

Ont., Cookstown—T. Robinson, clk. Tecumseth Twp., Cookstown, 3 span, 110 ft beam and slab Thompsonville Bridge. Approx. $60,000. F. M. Eagleson, Orangeville, engr.

LOW BIDDERS

California—State Div. Hys., Sacramento, Mar. 16, rein.-con. slab bridge and removing existing bridge across Putah Creek about 2½ mi. east of Davis and about 2½ mi. south of State Hy. R. 6, Solano and Yolo Counties, from Frederickson Bros., 1259 65 St., Emeryville, **$80,111.** CD 2/23—ENR 3/3.

●Md., Baltimore—Mayor and City Council, City Hall, Mar. 16, Waterview Ave. Underpass and Interchange, through (limited Access) Hy., Baltimore-Washington, Annapolis Ave. and Waterview Ave., Balt. F. A. P. MD UI 465 (5), from The Leo Rutler Co., Silver Spring, **$1,447,977.** CD 3/3—ENR 3/10.

Michigan—State Hy. Dpt., Lansing, Mar. 8, bridge and 0.502 mi. approaches carrying US 131 over Stephenson Creek north of Rockford, Kent Co., from Valley Constr. Co., Sodus, **$77,225.** CD 2/25—ENR 3/3.

CONTRACTS AWARDED

●Pennsylvania—Pennsylvania Turnpike Comm., 11 N. 2nd St., Harrisburg, 0.874 mi. bridge, carrying Eastern Exten. of Pennsylvania Turnpike over Susquehanna River, from Marsh Run, York Co. to Steelton, Dauphin Co., to Booth & Flinn Co., 1824 Forbes St., Pittsburgh, **$4,777,500.** Est. $4,000,000. Bids 2/28. CD 3/3—ENR 3/10, under LB.

STREETS AND ROADS

BIDS ASKED

STATE HIGHWAY LETTINGS

March 29	**April 1**
Iowa	**Kansas**
Massachusetts	**Missouri**
North Carolina	**Washington**
Ohio	**April 6**
March 30	**Louisiana**
New York	**April 7**
	New Jersey
	April 14
	California

March 24

Ia., Muscatine—Muscatine Co., Muscatine, secondary roads, incl. grading, bridge, culverts, surf., etc. $65,000. I. V. Howenstine Co., Muscatine, engrs. CD 1/27/44—ENR 2/10/44.

April 4

Ont., St. Catherines—Chairman Comm. Wks., City Hall, 25,000 sq. yd. concrete pavement, and 20,000 lin. ft. curb, for Municipality.

April 11

Ont., Waterloo—R. G. Given, city clk., Waterloo, 11,000 lin. ft. concrete sidewalks, 5,500 lin. ft. curb and gutter, 6,200 sq. yds. roadway, and 4,000 sq. yd. concrete road base, Ernest Oke, city engr.

LOW BIDDERS

California—State Div. Hys., Sacramento, Mar. 16, wid'n, plant mix on cement treated result., reconst. shoulders and on existing surface and pavement 1.8 mi. between south city limits and west city limits of Hayward, Alameda Co., from Lee J. Immel, 3020 San Pablo Ave., San Pablo, **$83,255******plant mix surf. and crusher run base 2.6 mi. between Martinez Rd. and Willow Pass, Contra Costa Co., from Gallagher & Burke, Inc., 500 73rd Ave., Oakland, **$153,215******plant mix on cement treated surf. 8.3 mi. from Richardson Creek to 6.3 mi. south of Crescent City Del Norte Co., from Harms Bros., 621 Stockton Blvd., Sacramento, **$245,460.** CD 2/23—ENR 3/3.

Kan., Lawrence—State of Kansas, Topeka, paving driveways, tennis courts at University of Kansas, from Constant Constr. Co., Box 126, Lawrence, **$50,649.**

Tex., Beaumont—City, City Hall, Mar. 15, rein.-con. paving 0.88 mi. Magnolia Ave., from Austin Co., Amelia St., **$73,923.** CD 2/11—ENR 3/3.

Virginia—State Hy. Dpt., Richmond, Mar. 17, rein.-con. paving 2.55 mi. and overhead at S.A.L. and Virginian Ry. crossing, Rt. 1, in Alberta Sect., Brunswick Co., from Harvey H. Stewart, 1200 S. Graham St., Charlotte, N. C., **$491,581******waterbound mucad. 1.14 mi. Rt. 161, Hilliard Rd. and Roseside Ave. near Richmond, Henrico Co., from Asphalt Paving Service Inc., 1901 Hamilton St., Richmond, **$80,710******rein.-con. paving 0.88 mi. Alt. Routes 301 and 460 near Petersburg, Prince George Co., from James P. Dillard, 1603 Winder St., Richmond, **$85,578 *****rein.-con. paving 1.75 mi. Rt. 15 near Tabb, York Co., from Bero Eng. & Constr. Co., Hampton, **$131,384.** CD 3/2—ENR 3/10.

CONTRACTS AWARDED

Ala., Mobile—Mobile Co. Bd. Revenue & Rd. Comrs., Mobile, paving and bridges 3.75 mi. Carline Rd. to Culvert St., to Laidlow Constr. Co., Mobile, **$130,269******4.1 mi. Theodore and Delchampa Rds., to Harbert & Cargile Co., Monroe Pk., Mobile, **$97,955******2.1 mi. Lott and Shelton Beach Rds., to W. S. McWaters, 2 Clayton St., Montgomery, **$509,902.** Grand total $738,171. Bids 3/11. CD 2/11—ENR 2/17.

EARTHWORK, WATERWAYS

BIDS ASKED

March 31

✦Illinois—U. S. Eng., 820 U. S. Court House & Custom House, 1114 Market St., St. Louis 1, Mo., levees in Prairee Du Rocher, and vicinity (Item V-B) (Edgar Lakes, Prairie Du Rocher and Modoc Drainage and Levee Dists.; Randolph Co., involving 150,000 cu. yd. levee embankment, 10 acres seeding and mulching, 1,540 cu. yd. tamped riprap, 1,000 lin. ft. 86 in. sluice gates, etc. CD 3/11—ENR 3/17.

April 1

✦Oklahoma—U. S. Dpt. Agriculture, Soil Conservation Service, P. O. Box 1898, Fort Worth, Tex., flood control reservoir, at Cheyenne. $30,000.

LOW BIDDERS

✦California—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., contract withdrawn, radial gates for Friant Kern Canal Station 3765 plus 7.00 to 3876 plus 50.67 and 4100 plus 00, Central Valley Proj., Spec. 2496. C. A. **$29,980.** CD 3/9—ENR 3/17, under CA.

Kan., Sterling—City, City Hall, Mar. 7, drainage construction, from Dwight Haworth, Box 104 Ottawa, **$36,180.** CD 3/2.

CONTRACTS AWARDED

●✦North Dakota—U. S. Eng., Fort Lincoln, Box 300, Bismarck, tunnels for Garrison Dam Proj., Missouri River, Eng.-32-015-49-60, to S. A. Healy Co., 61 Westchester Ave., White Plains, N. Y., and Material Service Corp., 33 N. La Salle St., Chicago, Ill., **$15,217,975.** Bids 3/3. CD 3/8—ENR 3/10, under LB.

●✦Washington—Bureau Reclamation, Dpt. Interior, Coulee Dam, earthwork, concrete lining and structures for West Canal, Station 334 plus 71.86 to 381 plus 84.70 and 511 plus 35 S. L. to 1229 plus 74, Columbia Basin Proj., Spec. 2541, to Morrison-Knudsen Co., Inc., Hoge Bldg., Seattle, **$6,136,734.** Bids 3/4, awarded 3/16. CD 3/9—ENR 3/17, under LB.

AIRPORTS AND AIRBASES

LOW BIDDERS

✦Minn., Duluth—AIRPORT IMPRVS., U. S. Eng., 1709 Jackson St., Omaha, Neb., Mar. 17, hangar and heating plant Air National Guards, Municipal Airport, Serial No. Eng. 25-066-49-176, from Fowler-Veranth Constr. Co., Alworth Bldg., **$408,619.** Est. $450,250. CD 3/2—ENR 3/10.

LATIN AMERICA

Haiti, Port au Prince—Republic of Haiti, Port au-Prince, land reclamation proj. in Mergasone area, incl. drainage area and irrigation works providing use of over 5,000 acres land, clay labor. **$350,000.** Ministry of Agriculture, Port au Prince, engr. CD 2/20/48—ENR 3/4/48.

Mexico, Frontera—Sria. de Bienes Nacionales, Mexico, D. F., port works, to Christian Nilsen, Stockholm, Sweden. Approx. **$1,750,000.** Awarded 3/19. CD 5/12—ENR 6/24.

Mexico, Morelia—Ministry Hacienda, 34, Mexico City, Lic. Jose Maria Mendoza Pardo, State Gov., receiving bids Apr. 18 for water purifying plant. Plans deposit $50. CD 4/29.

PUBLIC BUILDINGS

BIDS ASKED

March 30

●N. Y., Buffalo—Dpt. Mental Hygiene, Albany, medical and surgical bldg., $7,500,000; power house. Extended date. York & Sawyer, 101 Park Ave., New York, Zone 17, archts. CD 3/4—ENR 3/10.

March 31

✦N. J., Passaic—Pub. Bldgs. Admin., 731 Custom House, New York 4, N. Y., misc. repairs to U. S. Post Office. **FWA.**

April 1

Neb., Wahoo—Saunders Co., Wahoo, excavation for county hospital. Total cost Approx. $300,000. John Latenser & Sons, 1307 Farnam St., Omaha, archt. CD 8/19—ENR 9/2.

April 4

Calif., San Bernardino—San Bernardino Co., courthouse, San Bernardino County Hospital, incl. boiler room and workshop, laundry addtn. and storage bldg. Stoekley & Bamford, 124 W. 4 St., Los Angeles, archts. Bids 3/15 selected. CD 2/8—ENR 2/10.

N. S., Halifax—H. F. Bezanson, sec., c/o Bd. School Comrs., 81 Sackville St., school, Mumford Rd. Approx. **$500,000.**

April 5

N. Y., Mineola—Bd. Educ. Union Free School Dist. 10, Emory Ave., school addn., alterations. $475,000. Plans deposit $50. F. P. Wiedersum, 240 Rockaway Ave., Valley Stream, archt. CD 2/24.

April 6

Neb., Grand Island—City, power plant imprvs. incl. boiler erection and setting. $87,500. Black & Veatch, 4706 Broadway, Kansas City, Mo., engrs. CD 3/18/48.

†Virginia and Maryland—P. Wks. Office, Naval Gun Factory, Wash., D. C., housing facilities at Dahlgren, Va. and Cheltenham and Carderock, Md., Spec. 20782. Extended date. CD 3/17—ENR 3/24.

April 7

Tex., Houston—Houston Independent School Dist., 1600 Washington St., Berry School. $550,000. Stayton Nunn, 2017 W. Gray St., Houston, co-ord. archt. Cameron D. Fairchild, 2004 San Felipe St., archt. Bids 2/24 rejected. L.B. $477,760. CD 3/1—ENR 3/3, under LB.

Ont., Toronto—Electric Comrs., 14 Carlton St., sub-station, George St. Approx. $50,000. A. E. Salsbury, c/o owner, ch. archt.

April 8

Ind., Indianapolis—Bd. School Comrs., M. V. Bailey, bus. dir., 150 N. Meridian St., 2 story, 75x78 ft. brick, rein.-con. high school, Crispus Attucks School addn., remodeling, 1140 N. West St. $250,000. Plans deposit $25. Lennox & Matthews, 644 E. 38 St., archts.

●Mass., Brookline—Brookline Housing Auth., B. A. Trustman, chn., Brookline, 114 unit, brick housing, Egmont, St. Paul, Dummer and Pleasant Sts., State Aided Housing Proj. 200-2. $1,800,000. Plans deposit $100, refundable. Isidor Richmond & Carney Goldberg, 16 Arlington St., Boston, archts. CD 12/1—ENR 12/23.

April 11

†N. M., Las Cruces—U. S. Eng., P. O. Box 1538, Albuquerque, enlisted men's service club, sanitary sewer and waterlines, Serial No. Eng-29-005-49-62. $100,000.

April 13

Ont., Weston—J. B. Parkin Assoc., archts., 648 Church St., Toronto, 2 story, bsmt., 42x70 ft. main wing, 42x60 ft. cross wing, steel, brick, stone, concrete hospital, for Humber Memorial Hospital Assn., J. W. Pink, chn., 117 King St. Approx. $500,000. Extended date. CD 12/20—ENR 12/30.

April 14

●Ont., Windsor—R. H. Saunders, chn., c/o Hydro Electric Power Comn. of Ontario, 620 University Ave., Toronto, 60 cycle power steam generating station, initial capacity of 120,000 kw. (160,000 h.p.); ultimate output of 240,000 kw. (320,000 h.p.). Approx. $21,000,000. CD 4/19/48—ENR 4/29/48.

April 18

Calif., Martinez—Contra Costa Co., Hall of Records, Martinez, 2 story, rein.-con. juvenile hall. Approx. $250,000. Plans deposit $25. Geoffrey E. Bangs, 605 Market St., San Francisco, archt.

April 20

Pa., Norristown—Dpt. Property & Supplies, 18 and Herr Sts., Harrisburg, general contract, heating and ventilating, plumbing and drainage, electrical work, elevators, refrigeration for refrigeration and bakery bldg. at Norristown State Hospital. Plans, $10 general, $5 each for others. Howell Lewis Shay, 1801 Packard Bldg., Phila., archt. A. F. Jones, c/o owner, ch. engr. CD 2/10/47—ENR 2/26/47.

Tex., Houston—Houston Independent School Dist., 1600 Washington St., 3 story structural steel frame, Jeff Davis High School addn., remodeling school, etc. $225,000. Roy W. Leibach, 3702 Almeda St., archt. CD 2/2/48—ENR 2/19/48.

April 21

†Arizona—Bureau Reclamation, Dpt. Interior, Bldg. 1-A, Denver Federal Center, Denver, Colo., ten 72 in. diam. flap gates for Pump Plants 1, 2, and 3, Wellton Mohawk Canal, Wellton Mohawk Div., Gila Proj., Spec. 2617. L. N. McClellan, c/o owner, ch. engr.

LOW BIDDERS

Calif., Ukiah—Mendocino Co., Courthouse, Mar. 15, 4 story, rein.-con. jail and courthouse, from Carl N. Swenson Co., Box 558, San Jose, **$754,000.** CD 2/25—ENR 3/3.

Ill., Aurora—Bd. Educ., 454 Walnut St., 2 story, brick steel Dieterich School, from Olson Bros., 636 Gates St., **$290,628.** Joseph C. Llewellyn, 28 S. Dearborn St., Chicago, engr.

Ill., Bellwood—School Dist. 88, Oak St. and 25 St., Mar. 15, brick, steel Junior High School, from Person Constr Co., 130 N. Wells St., Chicago, **$315,990.** CD 2/28—ENR 3/10.

●N. Y., New York—Dpt. P. Wks., Municipal Bldg., Zone 7, Mar. 16, general contract, Chronic Disease Hospital (City Home Replacement) Bird S. Coler Memorial Hospital and Home, on Welfare Island, from Gerace & Castagna, Inc., 155-16 Jamaica Ave., Jamaica, **$7,663,720**** plumbing, from Jacobs Bros., Inc., 204 E. 45 St., Zone 17, **$1,370,000***** heating, ventilating and refrigeration, from James H. Martin, Inc., 503 W. 43 St. Zone 18, **$944,092***** electrical work, from E. J. Electric Installation Co., 235 E. 42 St., Zone 17, **$879,873.** CD 3/1—ENR 3/3.

Proposal Advertisements see pp. 55 to 57

SEARCHLIGHT SECTION

OFFICIAL PROPOSALS

RATE: THE RATE FOR OFFICIAL PROPOSAL ADVERTISING IS $1.00 PER LINE (OR FRACTION) PER INSERTION

COPY RECEIVED UP TO 3.00 P. M. FRIDAY FOR ISSUE OUT THURSDAY SUBJECT TO SPACE OPEN FOR LAST MINUTE ADS

SEND COPY TO OFFICIAL PROPOSAL DIVISION, ENGINEERING NEWS-RECORD, 330 W. 42ND ST., NEW YORK 18, N. Y.

OFFICIAL PROPOSALS

Bids: April 11, 1949 (941)

Grading, Drainage, Structures, Paving

PENNSYLVANIA TURNPIKE COMMISSION
Harrisburg, Pennsylvania

NOTICE TO BIDDERS

Sealed proposals will be received by the Pennsylvania Turnpike Commission, through the Chairman, 11 North Fourth Street, Harrisburg, Pennsylvania until 2:00 P.M. (Eastern Standard Time), the 11th day of April, 1949, and immediately thereafter will be taken to the Public Utility Commission's Hearing Room No. 1, North Office Bldg., Harrisburg, Pennsylvania, and immediately publicly opened and read aloud, for the following contract:

For construction of grading, drainage, structures, and paving of Turnpike Section 23-A, part of the Philadelphia Extension, in Lower Swatara and Londonderry Townships, Dauphin County, Commonwealth of Pennsylvania. This section being situated as follows:

Beginning at a point approximately 1160 feet West of Legislative Route 618 (TR 441) in Lower Swatara Township, at Turnpike Station 222+83 (Dauphin County) thence in a Easterly direction 24,626 feet to a point about 400 feet East of Township Road 566, Londonderry Township, at Turnpike Station 470+73 (Dauphin County) a distance of approximately 4.66 miles.

Approximate quantities of the principal items are as follows:

Class I Excavation, 665,000 Cubic Yards; Class II Excavation, 24,000 Cubic Yards; Reinforced Concrete Pavement, 127,000 Square Yards; Class A Concrete, 4,000 Cubic Yards; Class B Concrete, 6,000 Cubic Yards; Plain Steel Bars, 863,000 Pounds; Fabricated Structural Steel, 501,000 Pounds.

Copies of plans, specifications and other contract documents, including cross-sections, are on file and open to public inspection at the offices of the Pennsylvania Turnpike Commission located at Harrisburg, Pennsylvania on 23, March, 1949. Copies of cross-sections may be purchased from the Pennsylvania Turnpike Commission for the sum of Fifty Dollars ($50.00) per set.

Specifications and contract documents, exclusive of cross-sections, may be obtained from the Commission upon deposit of Ten Dollars ($10.00) for each set, such deposits to be refunded in full to any actual bidder upon return of such documents in good condition within five (5) days after the date of the opening of the bids. Refund will be made for all plans, contract documents and cross-sections returned, if the project is withdrawn from letting by the Pennsylvania Turnpike Commission. Remittances are payable to the Pennsylvania Turnpike Commission and must accompany requests for drawings, specifications and cross-sections.

The character and amount of bid security to be furnished by bidder is stated in the Instructions to Bidders.

No bids may be withdrawn for thirty (30) days after the scheduled closing time for receipt of bids.

PENNSYLVANIA TURNPIKE COMMISSION
Harrisburg, Pennsylvania
Mar. 17, 1949

James F. Torrance
Secretary and Treasurer

OFFICIAL PROPOSALS

Bids: April 11, 1949 (939)

Port Authority Bus Terminal

STEELWORK

CONTRACT BT-3

Sealed proposals for the furnishing and erection of the steelwork for the Port Authority Bus Terminal will be received at the office of the Chief Engineer of The Port of New York Authority, Room 1100, 111 8th Avenue, New York 11, N. Y., until 2:00 o'clock on the afternoon of Wednesday, April 20, 1949, and thereafter in the Auditorium of the Authority at the same address until 2:30 P. M., on the same date, at which latter time and place said proposals will be publicly opened and read.

Contract documents may be seen after March 28, 1949 at the office of the Chief Engineer and copies will be furnished after that date upon deposit of $25.00 per set. The deposit will be remitted if the documents are returned in good condition, not later than thirty days after the opening of proposals.

THE PORT OF NEW YORK AUTHORITY
Howard S. Cullman,
Chairman

New York, March 24, 1949

Bids: April 20, 1949 (940)

Reconstruction of Dock on North Side of City Channel

THE PORT OF NEW YORK AUTHORITY

PORT NEWARK

CONTRACT PN-2

Sealed proposals for the reconstruction of the dock on the north side of the City Channel at Port Newark will be received in the office of the Chief Engineer of The Port of New York Authority, Room 1100, 111 Eighth Avenue, New York 11, N. Y., until 2:00 o'clock on the afternoon of Monday, April 11, 1949 and thereafter in the Auditorium of the Authority at the same address until 2:30 P. M., on the same date, at which latter time and place said proposals will be publicly opened and read.

Contract documents may be seen at the office of the Chief Engineer, and copies will be furnished upon deposit of $25.00 per set. The deposit will be remitted if the documents are returned in good condition, not later than thirty days after the opening of proposals.

THE PORT OF NEW YORK AUTHORITY
Howard S. Cullman,
Chairman

New York, March 24, 1949

(Continued on page 56)

CONTRACTORS WATCH THIS SECTION

for New Projects

Publish your announcements thru the "Proposal Section" of Engineering News-Record and get their bids.

OFFICIAL PROPOSALS
(Continued from page 55)

Bids: April 20, 1949 (937)

Intercepter

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DEPARTMENT OF FINANCE
DIVISION OF PURCHASES
NOTICE TO SEWER CONTRACTORS

Sealed Proposals for the following project will be received at the office of the State Purchasing Agent, Room 123, State House, Smith Street, Providence, until 10 o'clock a.m. on the 20th day of April, 1949, and publicly opened and read.

BLACKSTONE VALLEY INTERCEPTER, SECTION A
BUCKLIN BROOK BRANCH INTERCEPTER IN PAWTUCKET AND EAST PROVIDENCE, RHODE ISLAND

Project involves 5,700 ft. of 96-in. sewer, 675 ft. of 24-in. sewer, and appurtenant work.

Drawings and contract documents may be examined at the office of the State Purchasing Agent, Room 123, State House, Providence, or the office of the Blackstone Valley Sewer District Commission, Room 238, State Office Building, Providence, or the office of Metcalf & Eddy, Engineers, 1300 Statler Building, Boston, Massachusetts, every week day except Saturdays and holidays between the hours of 8:30 a.m. and 4:30 p.m.

Copies of the specifications may be obtained upon depositing $25.00 at the office of the State Purchasing Agent, Room 123, State House, Smith Street, Providence. This deposit will be refunded to unsuccessful bidders upon returning specification in good condition, after an award has been made.

Each bidder must deposit with his bid a Bid Surety of $25,000.00 in the form of a certified check, bid bond or cash. The successful bidder must furnish a 100% performance bond.

Prevailing wage rates and labor laws for public work, as set forth in the "Information for Bidders" are applicable.

The State of Rhode Island reserves the right to waive any informalities in, or to reject any or all bids.

DEPARTMENT OF FINANCE
DIVISION OF PURCHASES
BY: Franklin A. Adams
State Purchasing Agent

Bids: April 7, 1949 (936)

State Road Work

STATE OF NEW JERSEY
STATE HIGHWAY DEPARTMENT
TRENTON

NOTICE IS HEREBY GIVEN that sealed bids will be received by the State Highway Commissioner for:

ROUTE 28, SECTION 28

Construction of Route 28, Section 28, Divided Highway Paving, from West Portal to Bethlehem-Union Township Line, Bethlehem Township, Hunterdon County. Length 2.941 miles.

Estimated:
- 59,300 cu. yds. Roadway Excavation-Earth
- 9,000 cu. yds. Roadway Excavation-Rock
- 34,800 sq. yds. 4" & 6" Macadam Base Course
- 12,000 sq. yds. 8" Concrete Base Course
- 26,000 sq. yds. 3" Mod. Penetration Macadam
- 9,750 tons Pavement, Type CA-BC
- 67,200 gals. Bituminous Material

Bids for the above will be received at the office of the State Highway Department, Room 102, State House Annex, Trenton, New Jersey, on Thursday, April 7, 1949, at eleven o'clock (11:00 A.M.—EASTERN STANDARD TIME), and will be opened and read immediately thereafter.

The receipt and opening of bids is subject to the proper qualification of the bidder in accordance with the provisions of the prequalification law and the regulations adopted by the State Highway Commissioner. Bidders must also submit a revised financial statement and statement of plant and equipment with their bid.

Drawings, specifications and form of bid, contract and bond for the proposed work are on file in the office of the State Highway Department, Trenton, N. J., and may be inspected by prospective bidders during office hours. Plans will be furnished on a deposit of Ten Dollars ($10.00) for each set of plans upon application to A. Lee Grover, Chief Clerk, State Highway Department, Room 102, State House Annex, Trenton, N. J. Bids must be made upon the standard proposal forms in the manner designated in the standard State Highway specifications and must be enclosed in sealed special addressed envelopes bearing the name and address of the bidder and work

OFFICIAL PROPOSALS

bid upon on the outside, and must be accompanied by a certified check drawn to the order of the Treasurer of the State of New Jersey for not less than ten percent (10%) of the amount of the bid, provided that the said certified check shall not be less than $500.00 nor more than $20,000.00 and must be delivered at the above place on or before the hour named. Copies of the standard proposal forms and special addressed envelopes will be furnished on application. Bids not enclosed in sealed special addressed envelopes will be considered informal and will not be opened. The right is reserved to reject any or all bids.

Signed: Spencer Miller, Jr.
State Highway Commissioner

Bids: March 30, 1949 (921)

State Road Work

STATE DEPARTMENT OF PUBLIC WORKS
BUREAU OF CONTRACTS & ACCOUNTS
ALBANY, NEW YORK

Sealed proposals will be received by Henry A. Cohen, Director, Bureau of Contracts & Accounts, 14th Floor, The Governor Alfred E. Smith State Office Building, Albany, N. Y., until ten-thirty o'clock a.m., eastern standard time, on WEDNESDAY, March 30, 1949, for projects in the following counties:

County	Deposit plans	Bid deposit	Type	Miles	Engineer's estimate
Bronx	$20	$150,000	Conc. & Steel Viad. Asph. Misc. 0.07 Mi. Conc. 0.23 Mi. 9" thk., 2 at 36'	0.30	$2,625,000
Broome	5	9,000	Asph. Conc.	3.93	159,000
Columbia & Rensselaer	10	100,000	Conc. 9" Thk., 2 at 25', 4' mall	5.78	1,695,000
Delaware	10	12,000	Reinf. Conc. Slab 40', 40', 37' Steel Beam 62' Asph. Conc. Opt.	0.40	308,000
Erie	5	6,000	Asph. Conc.	2.13	104,000
Livingston	5	17,000	Asphalt Conc.	7.45	315,000
Madison & Oneida	10	30,000	Welded Girder Span 115'; Misc. 0.06 Mi.; Conc. 2.00 Mi. 9" Thk. 24' Wide	2.06	559,000

This project involves the use of Welded Girder Alpha Construction and is patented; the royalty being $64.75.

Monroe	5	25,000	Cant. Deck Girder 2 at 84' Anchor Spans 2 at 44'; Suspended Span 1 at 100' (Canal Bridge)	0.37	484,800

This project involves the use of I-Beam Alpha Construction which is patented and the royalty is $60.27.

Monroe & Ontario	5	6,000	B. M. Road Mix	2.61	102,000
	10	30,000	I-Beam 4 Spans 2 at 47'; 2 at 87½'. Rig. Fr. Span 34'; I-Beam 4 Spans 2 at 38'; 2 at 39'. D. S. T. Gravel	0.16	516,000

This project involves the use of I-Beam Alpha Construction which is patented and the royalty is $308.00.

Montgomery	5	4,500	Rig. D.S.T. Grad	2.20	77,000
Nassau	5	4,000	I-Beam Widen.	0.04	73000

This project involves the use of I-Beam Alpha Construction which is patented and the royalty is $154.00.

Onondaga & Cayuga	5	30,000	Thru Truss 312' Span; 4 App. Spans-I-Beams at 75' each; Conc. 0.12 Mi. Asph. Conc. Opt. 0.31 Mi. (Canal Bridge)	0.43	529,030

This project involves the use of I-Beam Alpha Construction and is patented; the royalty being $209.72.

Orange	20	180,000	Rigid Frame, 2 Spans 54' each; Rigid Frame 50' Span; Rigid Frame 44' 10" Span; Built up Beam Span 97'; Conc. 9" Thk. 2 at 36'	1.48	3,050,000
Orange	5	23,000	I-Beam Span 47½' Conc. 8" Thk., 24' Wide	0.41	399,000

This project involves the use of I-Beam Alpha Construction which is patented, and the royalty is $56.00.

Rensselaer	5	7,000	Asph. Conc.	4.54	124,000
Schenectady	5	6,000	Asph. Conc.	2.84	106,000
Suffolk	5	11,000	Reinf. Conc. I-Beam tot. 165' Stabilized App.	0.25	184,000
Westchester	10	44,000	Conc. 9" Thk., 2 at 25'	2.52	790,000
Warren &	20	5,000	24' Bit Mac. Opt. 7.91 Mi. 9" Thk Reinf. Conc. 36'-40 0.74 Mi. Misc. 0.04 Mi.	8.8	1,437,000

OFFICIAL PROPOSALS

Maps, plans, specifications, and estimates may be obtained at the office of the Department of Public Works, Bureau of Contracts & Accounts, Albany, N. Y., and at the office of the District Engineers in whose district the roads are located. The name and address of the District Engineers will be furnished on request.

Plans may be seen at the office of the State Department of Public Works, 270 Broadway, New York City.

The deposit for Plans and Proposal Forms for each contract containing 1 to 15 sheets is $5.00; 16 to 30 sheets, $10.00; over 30 sheets, $20.00. A refund will be made in full to bidders for return of one set, in good condition, within 30 days of award, or rejection of bids; refund for all other sets in good condition, similar period, will be 50% of deposit.

Special attention of bidders is called to "General Information for Bidders" in the proposal, specification, and contract agreement, and to the special provisions applying to projects financed with federal funds.

Proposal for each contract must be submitted in a separate sealed envelope with the name and number of the contract plainly endorsed on the outside of the envelope. Each proposal must be accompanied by cash, draft or certified check payable to the order of "State of New York, Commissioner of Taxation & Finance" for the sum as specified in the advertisement and the proposal. The retention and disposal of the bidding check, the execution of the contract and bonds shall conform to the provisions of the Highway Law, as set forth in "Instructions to Bidders".

When optional types are permitted on contracts with federal funds, bidders must state in the space provided in the proposal the exact designation of the optional type upon which the proposal is predicated.

The right is reserved to reject any or all bids.

B. D. Tallamy
SUPT. OF PUBLIC WORKS

Bids: April 11, 1949 (938)

Electrical Substation

Sealed proposals for the construction of an electrical substation and kindred equipment and an electrical voltage transformation bay for the Electric Plant Board of the City of Hopkinsville, Kentucky, will be received by the Superintendent and Board of Directors of the Electric Plant Board at their office until 3:00 P. M., C.S.T. on the 11th day of April, 1949, and will be immediately opened and publicly read.

Copies of the proposal contract documents, drawings and specifications may be obtained from the office of Allen & Hoshall, Consulting Engineers, 65 McCall Place, Memphis, Tennessee. A charge of $25.00 will be made for each set of drawings and documents. Checks will be made payable to Allen & Hoshall. The entire payment will be refunded within ten days after the bids are opened, if a bona fide bid is tendered and specifications and plans returned in good condition, to all except the successful bidder.

A set of specifications and plans may be examined free of charge at the office of Allen & Hoshall, and at the office of Mr. A. Wettstein, Superintendent of the Electric Plant Board, Hopkinsville, Kentucky.

Each bid must be accompanied by a certified check, or a bid bond executed by the Bidder and a Surety Company licensed to operate in Kentucky, in the sum of 5% of the amount of the bid. The bond is requested as a guarantee that if the bid is accepted, a contract will be entered into and the performance of it properly secured. The successful bidder will be required to execute a performance bond.

Proposal forms must be properly filled out and must not be detached from the specifications. No riders shall be attached thereto or alterations made therein.

All bidders must have complied with the current State of Kentucky laws covering Contractors and be licensed accordingly. Bidder's name and license number must be placed on the envelope containing the bid documents.

WAGES: Wage rates meeting National and State laws shall be paid on this project.

WITHDRAWAL OF BIDS: Unless contrary to statutes of the State of Kentucky including local charter provisions, no Bidder may withdraw a bid submitted for a period of thirty days after the date set for the opening of such bids.

The right is reserved to reject any or all bids, and to waive informalities therein.

A. Wettstein, Superintendent
Electric Plant Board of the
City of Hopkinsville
Hopkinsville, Kentucky

(Continued on page 57)

U. S. Government

(Continued from page 56)

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. 2594) will be received by Bureau of Reclamation, Monte Vista, Colorado, until 10 a.m., April 12, 1949, and then publicly opened for furnishing labor and materials and performing all work for the construction of Platoro Dam, San Luis Valley Project. The work is situated about 1 mile upstream from Platoro, Colorado. Principal items are approximately: 1,100,000 cu. yds. excavation; 940,000 cu. yds. embankment; 3,400 cu. yds. concrete; and other work. Time allowed for completion will be 1,300 days. For particulars, address Bureau of Reclamation, Monte Vista, Colorado; or Building 1-A, Denver Federal Center, Denver, Colorado.

MICHAEL W. STRAUS, Commissioner.
(933)

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. 2598) will be received by Bureau of Reclamation, Superior, Nebraska, until 10 a.m., April 14, 1949, and then publicly opened for furnishing labor and materials and performing all work for the construction of earthwork, canal lining, and structures for a portion of Superior Canal, Bostwick Unit, Missouri River Basin Project. The work is situated in the vicinity of Guide Rock, and Bostwick, Nebraska. Principal items are approximately: 570,000 cu. yds. of excavation for canal; 33,000 cu. yds. of excavation for structures; furnishing and installing 3,000 lin. ft. of 66-inch and 72-inch precast-concrete pipe; installation of 75,000 lbs. of gates, hoists, and steel pipe; and other work. Time allowed for completion will be 420 days. For particulars, address Bureau of Reclamation, Superior, Nebraska; or Building 1-A, Denver Federal Center, Denver, Colorado.

MICHAEL W. STRAUS, Commissioner.
(932)

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. 2603) will be received by Bureau of Reclamation, Coulee Dam, Washington, April 15, 1949, and then publicly opened for furnishing labor and materials and performing all work for the construction of earthwork, concrete lining, and structures, East Low Canal and Rocky Coulee Wasteway, Columbia Basin Project, Washington. The work is situated near Moses Lake, Washington. Principal items are approximately: 5,350,000 cu. yds. excavation; furnishing cement and reinforcement and placing 170,000 cu. yds. concrete; furnishing and installing 36,000 lbs. miscellaneous metalwork; installing 244,000 lbs. gates and structural steel; and other work. Time allowed for completion will be 900 days. For particulars, address Bureau of Reclamation, Coulee Dam, Washington; or Building 1-A, Denver Federal Center, Denver, Colorado.

MICHAEL W. STRAUS, Commissioner.
(934)

UNITED STATES DEPARTMENT OF THE INTERIOR, Bureau of Reclamation. Sealed bids (Specifications No. 2602) will be received by Bureau of Reclamation, Hungry Horse Government Camp, Montana, April 12, 1949, and then publicly opened for furnishing labor and materials and performing all work for the construction of earthwork and structures for relocation of forest service road, Hungry Horse Project, Montana. The work is situated approximately 25 miles southeast of Columbia Falls, Flathead County, Montana. Principal items are approximately: 380,000 cu. yds. excavation; furnishing and placing 5,100 lin. ft. of corrugated-metal pipe; and other work. Time allowed for completion will be 590 calendar days. For particulars, address Bureau of Reclamation, Columbia Falls, Montana; or Building 1-A, Denver Federal Center, Denver, Colorado.

MICHAEL W. STRAUS, Commissioner.
(935)

OFFICIAL PROPOSALS

Bids: April 27, 1949 (930)

Completion of Water Treatment Plant

1. SEALED BIDS for the materials and construction for
COMPLETION OF WATER TREATMENT PLANT FOR THE CITY OF ADRIAN, LENAWEE COUNTY, MICHIGAN
will be received by the City of Adrian, Michigan, at the office of the Adrian City Water Board in the City Hall, Adrian, Michigan until
2 P.M., EASTERN STANDARD TIME
WEDNESDAY, APRIL 27, 1949
and at that time will be publicly opened and read aloud in the Council Room.

2. The proposed work consists of the construction necessary to expand a water treatment plant having a nominal capacity of 2.50 M.G.D. to a water softening plant having a nominal capacity of 5.0 M.G.D.

3. The contract documents, including plans and specifications, are on file at the office of the Secretary of the Adrian City Water Board, City Hall, Adrian, Michigan, and at the office of the Consulting Engineers, Finkbeiner, Pettis & Strout, 518 Jefferson Avenue, Toledo, Ohio. Copies of the documents may be obtained by depositing $25.00 with the Consulting Engineers for each set of documents so obtained. The amount of the deposit for each set of documents will be refunded to each actual bidder or vendor who returns the plans and documents in good condition within 5 days after the opening of bids.

4. All bids shall be signed and submitted on the blanks which are in the specifications and shall be secured from the Consulting Engineers. Bids shall be enclosed in a sealed envelope marked "Bid for Water Plant" or "Bid for Force Main" and addressed to the Secretary of the Adrian City Water Board.

5. Each bid must contain the name of every person, firm or corporation interested in the same and shall be accompanied by either a proposal bond, with security satisfactory to the City Water Board, or by a certified check on a solvent bank, in the amount of 5% of the bid drawn in favor of said City.

6. The City of Adrian reserves the right to reject any or all bids and to waive any irregularities in bidding.

7. No bidder may withdraw his bid for a period of 40 days after the scheduled closing time for receipt of bids.

City of Adrian, Michigan
By Adrian City Water Board
Carl R. Nelson, Secretary

Bids: April 4, 1949 (931)

Laying 8" Cast Iron Pipe Water Main and Appurtenant Work

Sealed proposals for laying 8" cast iron pipe water main and other work in connection therewith, in the Village of Washingtonville, Orange County, New York, will be received at the office of the Village Clerk of said village until 8:00 o'clock P.M. on Monday, April 4, 1949, at which time and place all bids will be publicly opened and read aloud in the presence of the Village Board of said Village.

The work in general consists of the approximate quantities for the following major items:

2300 cu. yds. Excavation and Backfill
7000 lin. ft. Maintaining Trenches
7000 lin. ft. Laying 8" Cast Iron Pipe
1600 sq. yds. Replace pavement with materials specified
10 Each-Hydrants and necessary valves and fittings

Bids must be submitted in sealed, opaque envelopes, plainly marked "Proposal for the Construction of 8" Water Main" and addressed to the Mayor and the Board of Trustees of the Village of Washingtonville.

Plans and contract documents may be examined at the office of the Village Clerk or at the office of Harry C. Carpenter, Engineer, 218 Wisner Avenue Ext., Middletown, New York and plans and specifications may be secured for the sum of $15 for each set.

Each proposal must be made upon the form furnished by the Village Clerk and shall be accompanied by a bid bond or certified check on a solvent bank of the State of New York, in the amount of five percentum (5%) of the total amount of the bid, to be forfeited to the village as liquidated damages in case of failure on the part of the bidder to enter into a contract for the execution of the work. Such check shall be made payable to the Village of Washingtonville.

The successful bidder will be required to furnish a satisfactory performance bond in the amount of 100% of his contract.

The Village Board reserves the right to waive any information in, or to reject any or all bids.

By Order of the Village Board of the Village of Washingtonville, Orange County, N. Y.
E. J. McLaughlin,
Village Clerk
Washingtonville, New York

OFFICIAL PROPOSALS

Bids: April 6, 1949 (908)

Sewer System and Treatment Plant

The Municipal Authority of the Borough of Lemoyne, Penna.

Sealed proposals will be received at the Borough Council Chambers, 332 Herman Ave., Lemoyne, Penna., until 2:00 P. M., E.S.T., April 6, 1949 for furnishing all necessary labor, materials and equipment, and performing all work for the construction of a Sewerage System and a Sewage Treatment Plant and appurtenances, and will there be publicly opened and read at that time. Separate proposals will be received upon two parts of the project as follows:

Sewerage System—Including 58,000 lin. ft., 8" to 18" vitrified sewers; 24,000 lin. ft., 6" vitrified sewer house connections; 240 brick manholes.

Sewage Treatment Plant—Including Control Building, Primary Settling Tanks, Sludge Digester, Sludge Drying Bed, Chlorine Contact Tank, fencing and specified equipment and appurtenances.

Proposals shall be accompanied by certified checks in accordance with the provisions contained in the Specifications and in the following amounts:

Sewerage System—$30,000
Sewage Treatment Plant—$7,000.

Copies of the Contract Documents, Plans and Specifications may be obtained from Gannett Fleming Corddry and Carpenter, Inc., Consulting Engineers, 600 North Second Street, Harrisburg, Penna., upon deposit of the following amounts for each set:

Sewerage System—
Twenty Dollars ($20.00)
Sewage Treatment Plant—
Fifteen Dollars ($15.00)

Full refund will be made to actual bidders for return of one set in good condition within ten days after closing date for receipt of bids; refund for return of all other sets, in good condition within the same period, will be fifty per cent of the deposit.

The Municipal Authority of the Borough of Lemoyne, Penna.
Gannett Fleming Corddry & Carpenter, Inc., Engrs.
600 North Second Street
Harrisburg, Penna.

Bids: April 27, 1949 (888)

Correction of ad appearing in 2/24/49.

Laying Cast Iron Pipe Distribution Mains and Appurtenant Work

CLARKSBURG WATER BOARD
CLARKSBURG, WEST VIRGINIA

Sealed proposals will be received for the item listed below by the Clarksburg Water Board at their office in Clarksburg, West Virginia until 10:00 A.M. on the 27th day of April, 1949, up to the hour of opening bids, at which time and place all bids will be publicly opened and read aloud. Bids will be received on the contract covering:

Laying Cast Iron Pipe Distribution Mains

Approximate quantities:
14,000 lin. ft. of 12" pipe
6,000 lin. ft. of 8" pipe
600 cu. yds. of rock excavation

The successful bidder will be required to furnish a satisfactory performance bond in the amount of 100% of his contract. The contract documents, including specifications and drawings are on file at the office of the Clarksburg Water Board, Clarksburg, West Virginia and at the office of Alvord, Burdick & Howson, 1401 Civic Opera Bldg., Chicago, Illinois.

The right is reserved by the Water Board to reject any or all bids or to accept any considered advantage to the Water Board.

Certified check, cash, government bonds, bidder's bond, or bank draft payable to the Clarksburg Water Board, or a satisfactory bid bond executed by the bidder and a surety company in an amount equal to 10% of the bid, shall accompany the proposal.

No bid may be withdrawn after the scheduled closing time for the receipt of bids but bids may be withdrawn at any time prior to the scheduled time for opening bids.

SCOTLAND G. HIGHLAND
Secretary and General Manager
Clarksburg Water Board.
Clarksburg, West Virginia.
..... 1949.

Engineering Designers

Several men for layout of Conveyor Equipment for handling heavy bulk material such as ore, coal, coke and stone for Steel Plant Installations. Should have broad experience in the design of Belt Conveyors, Hoppers and Chutes and also layout knowledge of enclosing building and gallery requirements.

Write for application form or give complete information of your past experience, including compensation earned and expected.

ARTHUR G. McKEE & CO.
2300 Chester Ave.
CLEVELAND, 1, OHIO

Large insurance company has opening for

ENGINEERING CONSULTANT

in connection with its Mortgage Loan and Real Estate Department. Must have knowledge and experience in construction of commercial buildings and be conversant with costs and appraisal methods. Give complete details including education, experience, salary, age and photo. Reply

P-8197, Engineering News-Record
330 West 42nd Street, New York 18, N. Y.

HELP WANTED—MALE

LANDSCAPE FOREMEN

Our jobs consist of out-of-town large public housing projects per plans and specifications—as well as roadside improvements on highway work, various states, which work involves large quantities placing top soil, seeding, sodding, planting, etc.

Reliable, capable, bondable men, between 40-50 years of age, with practical experience to run jobs will find our proposition lucrative and permanent.

Write giving full experience, references, and recent snapshot of yourself.

WILFRED ROADSIDE IMPROVEMENT CORP.
475 Fifth Avenue New York City

WANTED—Mechanical and Structural Engineers For designing and detailing work on concrete reinforcement, structural steel and hangar door construction. Requirements are three to four years practical experience or recent graduation from technical school. Desirable working conditions and opportunities for advancement. These openings are with a nationally known steel fabricating company, located in eastern Ohio. Applicants will please submit a record of their qualifications.

P-7737, Eng. N-R. 520 N. Mich. Ave., Chicago

OFFICE MANAGER

for old established reputable fabricator and erector of structural steel for buildings. Experienced in same line essential, must be good administrator with accounting background, capable supervising cost systems and office procedures. Excellent salary. Write full particulars in confidence or call for appointment.

GRAND IRON WORKS, Inc.
525 Tiffany St., New York 59, N. Y.
DAyton 8-2600

WANTED Draftsmen—

ARCHITECTURAL and STRUCTURAL

Experienced in industrial building. Applicants please state age, education, previous experience and salary desired. Photograph or snapshot not returnable.

AMERICAN ENKA CORPORATION
Enka, N. C.
(near Asheville)

ANNOUNCING
CIVIL SERVICE EXAMINATION
for
SUPERINTENDENT CITY WATER WORKS
CEDAR RAPIDS, IOWA

Qualifications: Age 30 to 50 years. Engineering degree and ten years experience or BS degree and 12 years experience. Starting salary: $6,000 to $7,500

Write Civil Service Commission, City Hall, Cedar Rapids, Iowa for applications and information. Deadline, May 20, 1949.

REPLIES (Box No.): Address to office nearest you
NEW YORK: 330 W. 42nd St. (18)
CHICAGO: 520 N. Michigan Ave. (11)
SAN FRANCISCO: 68 Post St. (4)

POSITIONS VACANT

WANTED—ENGINEERS. Architects, Draftsmen experienced in the design of sewers, sewage treatment plants, water treatment plants and industrial buildings. Also engineers to supervise construction. State qualifications, experience, salary requirements and date available. P-1155, Engineering News-Record.

STRUCTURAL DETAILERS—Checkers. Paid holidays. Vacation. Ralph Rinker, 572 Bellevue Ave., Trenton 8, New Jersey.

WANTED, SEVERAL engineering graduates, under 35, by large industrial fire prevention organization maintained by leading insurance group. Permanent position. Periodic inspections and special consulting service for leading industrial plants. Thorough training. P-8063, Engineering News-Record.

WELL ESTABLISHED retail firm has position open for structural engineer between the ages of 30 and 40 who is familiar with concrete structures. College degree in engineering and at least five years field experience or experience with structural engineering firm required. Applicant must be capable of supervising construction and experienced in designing and detailing of concrete. Must be free to travel, headquarters in Atlanta. Southeastern resident preferred but not required. Give full details of educational and business history in letter of application. P-8130, Engineering News-Record.

WANTED — ENGINEER-Superintendent for General Contractor, operating in Mich., near Detroit. Sewer, water and conduit lines. Must be able to estimate. Please state age, experience and salary expected. P-8184, Engineering News-Record.

WANTED—AN experienced estimator for an established Philadelphia concern for large sewers, tunnels and bridges. State salary, experience, and when available. P-8285, Engineering News-Record.

WANTED: TESTING Engineer, experienced in laboratory and field testing of construction materials particularly concrete, asphalt paving and soils. P.E. license desirable. Location Ohio; position permanent. State age, education, experience and salary. P-8293, Engineering News-Record.

WANTED
FOR EXTENSIVE HIGHWAY PROGRAM EXPERIENCE STRUCTURAL DESIGNERS DETAILERS, DRAFTSMEN AND EXPERIENCED HIGHWAY DESIGNERS AND DRAFTSMEN ALSO RECENT CIVIL ENGINEERING GRADUATES FOR ABOVE. LONG ESTABLISHED FIRM—LOCATION PENNSYLVANIA.

P-8394, Engineering News-Record
330 W. 42nd St., New York 18, N. Y.

WANTED MAY 1ST

Engineering Graduate, qualified to direct aggregate production in Northwest in connection with large dam project. Deposit located 60 miles from town of any consequence. Must be aggressive and able to supervise project accounting, purchasing, and labor relations. Right man can be built up with this experience as valuable asset to our organization. Write

P-8377, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

MAN WANTED
SALES ENGINEER

For selling and promoting asphalt construction and materials. Permanent position and excellent opportunity for right man. State qualifications and references.

SW-8369, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

POSITIONS VACANT

DRAFTING ROOM Supervisor. Experienced FHA subdivision and land surveying practice. Steady employment. Metropolitan Long Island. P-8367, Engineering News-Record.

STRUCTURAL STEEL Designer and Estimator wanted by leading central west fabricator. Permanent position and good opportunity with large well established and growing company. Please state qualifications, past experience and salary requirements. P-8386, Engineering News-Record.

LARGE NEW York Construction Company has vacancy for Chief Estimator. Must be familiar with all types of construction and have had a minimum of fifteen years experience. State complete qualifications and include photograph. P-8375, Engineering News-Record

RIGGER FOREMAN, experienced in rigging for driving extra long steel H-Piling, for building foundation. State age, experience in full, and all pertinent information. Job located in northern New York state. P-8445, Engineering News-Record.

SELLING OPPORTUNITY OFFERED

ALASKA SALES Representative wanted by nationally known manufacturer of portable gasoline-engine-driven pumps, generators, chain saws, electric paving breakers, etc., selling to contractors, railroads, utilities, mining and pulpwood industries on commission basis. Exclusive territory. State qualifications, references, experience. Company official will come to Anchorage in April for interviews with qualified applicants. Write Homelite Corporation, Port Chester, New York.

POSITIONS WANTED

SUPT. WATER Works—Extensive experience in operation and maintenance of water plants and distribution systems. Especially successful in chemical treatments, filtration, improvements in distribution systems, chemical, physical, bacteriological and microscopical examinations of waters of all types. Education B.S. in chemical engineering with 12 years of active experience with plants of all sizes. Interested in position with medium sized city, 80,000 to 200,000 population. Available after April 1st PW-8270, Engineering News-Record.

ENGINEER-EXECUTIVE, twenty-two years experience in practically all types of industrial, commercial and government projects. Civil Engineer, age 42, experienced in the supervision of both design and construction. Last salary $13,000. Good references. Available immediately. PW-7984, Engineering News-Record.

CIVIL ENGINEER, Registered. Experienced design and construction chemical plants, oil refy., plant layout, drydocks, piers. Capable office man. Domestic or foreign. Available immediately. PW-8136, Engineering News-Record.

GENERAL SUPERINTENDENT or Superintendent available. 25 years. Broad experience supervising and estimating. All types of paving, heavy-excavating, large-sewers, water and gas main construction, air-ports, earth-fill dams, many other classes of construction. Cost conscious, prefer middle west or west. Sober, honest, reliable, best references. PW-8212, Engineering News-Record.

(Continued on opposite page)

POSITIONS WANTED
(Continued from page 58)

CONSTRUCTION SUPERINTENDENT; over 15 years experience in commercial, industrial, and governmental work. Excellent references. PW-8317, Engineering News-Record.

CIVIL STRUCTURAL Engineer, registered. Design and fabrication background. Available for supervising position only. PW-8298, Engineering News-Record.

PARTY CHIEF, Designer. Instrument man wants position as assistant county or city engineer, or with consulting engineer or contractor. PW-8223, Engineering News-Record.

CONTRACTORS ASSISTANT, Chief Estimator desires permanent connection with General Construction Company. Considerable experience in managing contracts covering buildings, bridges, waterworks etc., under highly competitive conditions. PW-8297, Engineering News-Record.

CIVIL ENGINEER—Graduate, Registered, age 39, desires connection with construction or engineering firm in supervisory capacity. Wide experience in general construction, principally industrial buildings and facilities. Interested in position of responsibility. PW-8356, Engineering News-Record.

FIELD SUPERVISOR or Foreman: 20 years exp. all types excavation, grading, drainage and surfacing. Buildings, highways, airports, levees, dams. Know how to handle equipment and men. Cost conscious, age 42, married, steady. Write to C. E. Kerlin, Port Trevorton, Pa.

PLANT ENGINEER, M.E., Graduate, married, age 30, 30 months plant engineer, job estimating, maintenance, plant construction, production surveying. 5 years air craft engine maintenance. Desire permanent position. PW-8333, Engineering News-Record.

BUILDING: PROJECT or Construction Manager also General Superintendent; 30 years experience full charge of large projects, years actual experience cost clerk; estimator; purchasing; closing; manager; general and job superintendent; all types of structures and allied construction all kinds of contracts. PW-8198, Engineering News-Record.

CIVIL ENGINEER, 20 years experience in bridges, highways, sewers, airports, design, construction and administration. Desires permanent position. Mid-West preferred. PW-8408, Engineering News-Record.

STRUCTURAL STEEL and miscellaneous iron. Thoroughly experienced in the business in all phases selling to shop. Have been for many years Contracting Engineer and Executive of large steel firm. PW-8411, Engineering News-Record.

LANDSCAPE ENGINEER, 29, B.S. in Landscape Architecture. Experience planning, survey layout, and development of parks, house and apartment developments. Little or no travel desired. Location immaterial. PW-8365, Engineering News-Record.

STRUCTURAL ENGINEER, C.E. P.E., N.Y. state. Thoroughly experienced, for past 12 years in the design of steel, concrete and timber structures and competent to execute complete structural building designs and drawings seeking free lance work on contractual or hourly basis. PW-8433, Engineering News-Record.

CIVIL ENGINEER—graduate, licensed, 45. 20 years experience in reinforced concrete design, hydraulics, dams, industrial structures, research in structural engineering. Exceptional background mathematics and stress analysis. Employed as design engineer in N.Y.C. Desires responsible position. PW-8440, Engineering News-Record.

CONSTRUCTION — ESTIMATOR — Superintendent—15 years experience—compile complete bids — pricing — purchasing — industrial —commercial work. Florida or Georgia preferred. Available. PW-8426, Engineering News-Record.

CONSTRUCTION OFFICE Man (accountant) 40, full charge books. Completely competent payroll, purchasing, cost and storehouse records. Best references. Anywhere. J. J. Quirk, 433 101st Street, Brooklyn, N.Y.

FIELD ENGINEER—age 40, 20 years experience in layout and construction of large industrial plants, highways and bridges. Available immediately. Domestic or foreign. PW-8415, Engineering News-Record.

PROJECT MANAGER or General Superintendent with broad managerial experience in heavy construction. Have well trained organization. Available about April 1st; domestic or foreign assignment. PW-8405, Engineering News-Record.

SUPERINTENDENT, CONSTRUCTION. Industrial and commercial bldgs, housing projects, hospitals, sewage treatment plants, hotels, and schools, desires connection with organization offering possibilities. Over 20 years experience, age 46. Now located in eastern Penna., willing to travel. PW-8404, Engineering News-Record.

MECHANICAL ENGINEER—Graduate 1942—2 years as engineer for Babcock and Wilcox starting up and servicing boilers up to 500,000 #/hr. 1 year oil refinery experience. PW-8384, Engineering News-Record.

POSITIONS WANTED

CONSTRUCTION SUPERINTENDENT: twenty-five years experience all types of construction, liaison and inspection. Master mechanic on mechanical installation. Cost minded. Fine past personnel relations record and will produce results. Experienced, purchasing, costs, specifications, sub contracts, etc. Available March 1st. PW-8409, Engineering News-Record.

AVAILABLE 18 yrs. experience purchasing, field accounting, expediting, materials supervision, cost on all types construction. Desire responsible position with future. PW-8391, Engineering News-Record.

BRIDGE CARPENTER Foreman, 12 yrs. experience in all phases of Bridge Construction desires position vicinity of Philadelphia. References available immediately. PW-8287, Engineering News-Record.

SPECIAL SERVICE

Let us handle your wire rope cable splicing problems; chokers, slings, pendants, guys, etc. SS-8425, Engineering News-Record.

SITUATION WANTED

By three 13 cu. yd. Bottom Dump Euclids. Experienced in heavy construction and willing to work around the clock. Ready for hire or adoption.

BRANDEIS MACHINERY & SUPPLY CO., INC.
Brook & Warnock St.
Phone CAlhoun 4741 Louisville 8, Ky.

SUPERINTENDENT of CONSTRUCTION

Thoroughly experienced General building. Hospitals, Heavy construction, Reinforced concrete. Estimating and Purchasing. Would consider a financial interest after a trial period. Reg. Professional Engineer. Mem. ASCE.
Only Reliable Contractors considered.

BO-8328, Engineering News-Record
330 West 42nd Street, New York 18, N. Y.

FOR SALE
CONSULTING ENGINEERS PRACTICE AND EQUIPMENT

Largely Municipal In Pacific Northwest

BO-8446, Engineering News-Record
68 Post St., San Francisco 4, Calif.

FOR SALE

Contracting business, road building, land clearing, excavating, etc.
Completely equipped with good machinery, now operating.

Write P. O. Box 713 Little River Sta. Miami, Fla.

FOR SALE
Heavy Construction Co.

Land Clearing, Road Building, Excavating
$30,000 in signed contracts
Inventory value only
***Addressee* 2265 S. W. 28th St. Miami, Fla.**

WANTED

1—Used Buffalo-Springfield 3 axle Tandem 12-18 ton roller
1—Late model Adnun Paver perfect condition
1—105 c.f.m. Air Compressor

W-8135, Engineering News-Record
330 West 42nd Street, New York 18, N. Y.

WANTED
CRANE

3900 MANITOWOC for steel erection, preferably with HBIS Cummins engine and torque converter.

W-8421, Engineering News-Record
330 W. 42nd St., New York 18, N. Y.

WANTED

BUCKEYE TRENCHER
MODEL C224 OR EQUAL
CLEVELAND TAMPER BACKFILLER

A. C. R. COMPANY
19615 Nottingham Rd. Cleveland, Ohio

CRANE AND SHOVEL BARGAINS

Bay City Model 20 Dragline, Serial #1786, 30' boom, powered with Hercules JHC-3 Engine, Bucket included.
Lorain Model 40 Dragline, Serial #9505, 35' boom, wide tracks, powered with Waukesha Engine.
General ¾ yd. Combination Dragline Clamshell, Serial #2101, 50' boom, powered with Buda 6 cyl. Engine.
Northwest Model 25 Combination Shovel, Crane and Dragline, Serial #4969, powered with Wisconsin Engine.

The EARLE EQUIPMENT COMPANY
6331 Tireman Ave.
Detroit 4, Mich.
PHONE: Texas 4-2100

FOR SALE OR RENT

CRANE. Orton: Steam Locomotive, Eight wheel, Standard Gauge, with 50 foot Boom, Capacity 18 ton at 12 foot radius. Excellent condition, can be changed for gasoline or Diesel Engine power.

PROGRESS IRON & STEEL COMPANY
117 East Market St. Louisville, Ky.

FOR SALE
½ yard Osgood Shovel

Model 200—3 attachments. Sacrifice for quick sale—$8,000 cash. Call or write

LAWRENCE CHIAPPETTA & SON
118 Hamilton Avenue, Greenwich, Conn.

FOR SALE:
D-7; D-8 Caterpillar Tractors
C-96 Scrapers, 15 yard
Ransom Transit Mixers—three yard
H-D-19 Tractor with Bulldozer
Lima Paymaster Shovel and Backhoe 8" and 9" Road Forms
Gallon Grader 102 Model

FOR RENT:
Four D-W 10s and D-7 Tractor and Bulldozer
JOHN E. SCHULTZ CONTRACTING Co. Inc., 316 Crestwood, Buffalo 16, N. Y. Delaware 8011

FOR SALE
NORTHWEST TRUCK CRANE
Model 25

¾ cy.—40 ft. Boom Price, $7500

CAYUGA CONSTRUCTION CORP.
30 Vesey St. New York 7, N. Y.
Digby 9-0560

WANTED

2¼ yd. Clam Shell Bucket
¾ yd. Backhoe for Bay City Model 30
35 ft. Lattice Boom for Northwest Model 25

"STONE THE CRANE MAN"
415 Brainard Ave. *Temple 1-2575* Detroit 1, Mich.

WANTED

Shovel Boom complete with Boom Dipper Stick and Dipper for Thew-Lorain Model 69 Shovel.

Mail or wire full particulars to
SHERIDAN EQUIPMENT CO., Ltd.
33 Laird Dr. N., Toronto 17, Ontario

WANTED

1—Good Crane on rubber for ½ or ¾-yd. Clam
1—25-ton Trailer for moving Shovels and Bulldozers

H. E. BUNCE Waverly, New York

WANTED
HYSTER TOWING WINCHES MODELS D8N - D7N - D6N

W-8376, Engineering News-Record
520 N. Michigan Ave., Chicago 11, Ill.

PUBLIC AUCTION

$500,000 WORTH OF ROAD CONSTRUCTION EQUIPMENT

This huge liquidation sale is scheduled for Tuesday, April 12th, 1949, 10:00 A.M. at Avinger Field (Sweetwater Municipal Airport) 3 miles west of Sweetwater, Texas, off Highway 80. Equipment will be sold in piecemeal lots, to highest bidders, subject to confirmation by owners. Equipment includes Asphalt Machinery, Compressors, Concrete Mixers, Crushing and Screening Plants, Dozers, Graders, Maintainers, Power Plants, Pumps, Rollers (Sheepsfoot & Pneumatic), Rotary Brooms, Scrapers, Shovels, Tractors, Trailers (Low-Boy, Semi-, and Tandem types), Trucks, and Welders . . . all best brands such as Allis-Chalmers, Austin-Western, Bucyrus-Erie, Caterpillar, Galion, G.M.C., Hobbs, International, LaPlante-Choate, LeRoi, LeTourneau, Schramm, Waukesha, & Westinghouse. Also Airplanes, Office Equipment, Shop Equipment, & Tool Houses. Terms of sale—Certified Checks or Cash. Complete descriptive folder available on request.

WRITE—WIRE—PHONE

RALPH ROSEN ASSOCIATES

AUCTIONEERS—LIQUIDATORS—APPRAISERS

909 Praetorian Bldg. DALLAS TEXAS Telephone Prospect 7-2148

FOR SALE

2½ Yd. Bucyrus-Erie shovel, Buda Diesel Motor, Model 54B

1¾ Yd. Lorain Shovel, Model 80

⅜ Yd. Michigan Truck Crane, Shovel and Backhoe, Model TD6

¾ Yd. Koehring Shovel, Crane, Backhoe and Drag, Model 304

½ Yd. Northwest Shovel, Model 18

¾ Yd. Northwest Shovel, Model 25

D7M Caterpillar Tractor with Cable Angle Dozer and Rear Mounted Hyster Winch

Subject to prior sale

J. H. BEERS

R. F. D. #2 Bangor, Pa.

Phone: Bangor 307

FOR SALE

3T 2245 D-7 Hydraulic Angle dozer—$9,000.00

4T Series D-7 Cable Bulldozer—$9,000.00

93-M Marion—2½ yd. Shovel—2300 Hrs.—Sacrifice

SPECIAL

Brand new—Complete set of tracks—Rails—12 Assemble bottom rollers for 3T D-7—$2500.00

New LeTourneau FDT-7 Front P.C.U. for D-7—$400.00

TEX ARNOLD INC.

Philipsburg, Penna. Phone 850-R

RAILS-TIES

TRACK ACCESSORIES

RAILS - ANGLE BARS TIE PLATES

Write for Regular Bulletins of CURRENT LISTINGS

Complete Range of Sizes Always Available

RAIL DIVISION

COMMERCIAL METALS Company

LATIMER AT CORINTH, P.O. BOX 1046, DALLAS

RAIL
STEEL PLATE
STRUCTURALS, PIPE,
TUBING, WIRE ROPE,
FERROUS AND NON-FERROUS SCRAP

BOUGHT-SOLD LIQUIDATED

DULIEN STEEL PRODUCTS, Inc.

of Washington

9265 E. Marginal Way • Seattle 8, Wash. • LAndor 6000

FOR SALE

Bucyrus-Erie 2½ cu. yd. Shovel

Serial 61684, Model 54B. Purchased June 1948, used for six months. Available for immediate sale, good condition.

FS-8423, Engineering News-Record
330 W. 42nd St., New York 18, N. Y.

170,000 6x8 - 8' RAILROAD TIES

PRESSURE CREOSOTED — TOP QUALITY — FROM WELL MAINTAINED GRAVEL BALLAST TRACK.

One of the finest offerings of used ties ever to reach open market. All late insertions—several thousand 1948. All Engineer inspected, priced below market and available for prompt shipment.

Ask for our LOW DELIVERED PRICES. If you are in a hurry, wire us "collect."

GILLIS AND COMPANY

Railroad Ties Since 1892

29 EAST MADISON ST. CHICAGO 2

FOR SALE

MOTOR GRADERS

1—"Caterpillar" Diesel #212, with cab, scarifier and electric starter. 1946, excellent . . . $5700.00

1—"Caterpillar" Diesel #10 tandem. Good . . . $3200.00

1—"Caterpillar" Diesel #10 tandem. Fair $2200.00

ALSO

SPECIAL

1—Allis Chalmers HD5 tractor with winch and angledozer. 1948 model. Perfect . . . $5900.00

T. SOUTHWORTH
TRACTOR & MACHINERY CO., INC.
Glenwood Road-Menands Albany 4, N. Y.
Phone Albany 5-5255

TRUCK CRANE

Priced for immediate sale—$6500.00

½ yd Universal Lorraine on AC Mack. Owner operated and in excellent condition

ROBERT D. HENDRICKS
3024 Tyson Ave., Philadelphia 24, Penna.
DE-8-2859

---

2 INTERNATIONAL 6 x 6—4 YD. MIX TRUCKS—$5,000.00 EACH

1 G.M.C. 3 YARD REX MIX TRUCK—$3,750.00

GREAT NECK BUILDING MATERIALS CORPORATION
501 Bayview Ave., Manhasset, N. Y.

FOR SALE

P & H 1055 LC DRAGLINE

4 Cu. Yard Bucket 80' Boom

1 year old—like new

Phone Alliance, Ohio 2160

SEBRING COAL COMPANY
214 First National Bank Bldg. Alliance, Ohio

STEEL ANGLES, BEAMS, CHANNELS

New Bethlehem Shapes

5 tons 6" beams 12# 5 tons 4" I-7.7# 5 tons 6" channels 8.2# 5 tons 4" channels 5.4# 95 Tons Angles, from 6" x 4" x ⅜" to 1¼" x 1¼" x 5/16" (Structural & Bar Size) FOB Warehouse Jersey City, N. J.

A. A. TOGNOLI COMPANY
141 Broadway N. Y. 6, N. Y.

FOR SALE AT A RIGHT PRICE:

1—Sterling Diesel Tandem Tractor with a new H.B. 600 Cummings Motor. Tractor completely rebuilt two months ago by Sterling Motors.
1—90 Ton Rogers "I" Beam Trailer.
1—Rogers Low-boy with 80 Ton Drop Deck. 750x18 Tires.

WANTED:
1—Model 32 Hanson Shovel Front.

Write **T. J. KILMAIN SALES CO.**
NORTH MT. VERNON AVE. UNIONTOWN, PENNA.
or call Uniontown 5400

STEEL WALL FORMS FOR SALE

#14GA. VERTICAL & HORIZONTAL TYPE

KENN EQUIPMENT CO., INC.
205 Van Brunt St. **Brooklyn, New York**
Triangle 5-0899, 0841

FOR SALE

Immediate delivery
From our own warehouse
new and used

Wide Flange Beams

26 pcs.	8" BPS Beams	36#	60'
100 pcs.	10" BPS Beams	42	35'
27 pcs.	10" BPS Beams	42	60/65'
50 pcs.	12" WF Beams	36	19'10"
25 pcs.	21" WF Beams	112	40'
20 pcs.	30" WF Beams	116	34'/37'6"
25 pcs.	36" WF Beams	300	40'

ANGLES—2 x 2 x ¼ to 8 x 8 x 1
PLATE—3/16" to 1½" thick
CHANNELS—4" to 15"
SHIP CHANNELS—6" to 12"

We cater particularly to engineer's and contractor's structural steel needs. We carry a complete line of new structural steel shapes, such as standard and wide flange beams, angles, channels and plate. We suggest that you contact us immediately for any material you may need.

HY DRACHMAN STEEL Corp.
Warehouse
14-23 34th Avenue Astoria, L. I.
AStoria 8-8023—8096
Main Office
563 E. Tremont Ave. N. Y. 57, N. Y.
CYpress 9-5440-1

2 D-8's, 8R & 1H series w/dozers
2 D-7's, 4T & 7M series w/dozers
1 D-4, 2T series w/dozer
1 Caterpillar model #12 Grader
Truck Crane, Unit ½ yd., new
Truck Crane, Quickway mod. E
2 Diesel Rollers, Galion & Huber 10 ton
Machinery Trailer, 30 ton
3 International T-9 Swing Cranes
Tractor, TD-14 w/Hughes-Keenan Crane
Asphalt Distributor, 800 gal.
Cement Mixer, 2 bag, on rubber tires
2 TD-18's, 1 TD14 w/blades

Also other items.
All very clean, some new
For details and pictures:
WRITE BOX 114
MIAMI SPRINGS, FLA.
Phone Miami, 78-0243

FOR SALE

1—Lima Paymaster
1—Lorain L-41
1—1½ cy Osgood, Air controls
1—Lorain 80 with 1½ cy front end
2—1½ C.Y. Lima, air controls
1—International 1-6 bulldozer
3—D-7 Tractors
1—Austin Western 99M Grader
1—Austin Western Elevating Grader
1—H.D. 19 AC Tractor-bulldozer

FOR RENT

1—1¾ cy Osgood, Air controls
1—Lorain Moto Truck Crane
1—D-8 tractor-Bulldozer
1—500 Compressor
2—Wagon Drills
1—Dust Collector
4—Road dump Euclid Trucks
Complete paving and Road equipment.

TUCKAHOE CONSTRUCTION CO., INC.
116 Columbus Ave. Tuckahoe 7, N. Y.

FOR SALE

1—TD9 International Tractor w/Bucyrus Bull Grader
1—T6 International Tractor w/Bucyrus Bulldozer
1—Barber-Green Ditcher 44C
1—Insley Shovel/Backhoe Combination
1—18 Yard Woolridge Scraper
1—3 wheel 7 ton roller

FERGUSON CONSTRUCTION CO.
137 Boulevard, NE
Atlanta, Georgia

FOR SALE

1—Northwest Model 80D-2½ cu. yd. crawler shovel, crane/drag combination. Murphy Diesel engine.
2—Northwest Model 25 crawler pullshovel crane combination, diesel engine.
2—Northwest Model 25 crawler cranes, gas engine.
1—Northwest Model 25 diesel truck crane, 60' boom.
1—Bucyrus Erie 38-B 1½ cu. yd. crawler shovel, General Motors diesel engine.
1—Marion Model 371 crawler crane/drag combination—gas engine.
1—Manitowoc Model 2000 crawler crane/drag combination—diesel engine.
1—Lima Paymaster crawler pullshovel crane combination—gas engine.
1—Lorain 1¾ yd. crawler diesel shovel.
1—Lorain Model 40 Truck Crane, 35' boom mounted on 10 wheel Mack.
1—P & H ½ cu. yd. crawler pullshovel—gas engine.
1—Koehring Model 205 cruiser crane.

HODGE & HAMMOND, INC.
1100 E. 156 St., New York 59, N. Y.

NEW PARTS

FOR
Tractors, Graders, Scrapers,
Shovels, Cranes,
Trench Diggers, etc.

(Allis Chalmers, Caterpillar, International, Barber-Green, Insley, Buckeye, Northwest, Loraine, Turnapull.)

Cutting Edges All Sizes—Fairleads

CEMENT MIXERS
2 Ransome and 1 Rex
Excellent Condition

JULIUS HEBENSTREIT, INC.
56-15 58th St. Maspeth, L. I.
Tel. DAvenport 6-1461
Cable: Habenjul New York

TRENCHING MACHINE

Cleveland Baby Digger, Model 95, with trailer on Pneumatic tires. Serial #2395. Inquire

C. F. GILGENBACH
R. D. #1, Elyria, Ohio
Phone, Elyria 4-6148

FOR SALE OR RENT

Link Belt Truck Crane

New 1947. T 98—Sectional Boom up to 122 ft—Back Hoe with High Gantry and Extra Counter Weight—Clam Shell and 3,000 LB. Vulcan Drop Hammer with Leads. Used about six months.
FS-7325, Engineering News-Record
330 West 42nd Street, New York 18, N. Y.

FOR SALE

NORTHWEST SHOVELS

MODELS 80D, 6 & 25
LATE MODELS IN EXCELLENT CONDITION
WILLIAMS CONSTRUCTION COMPANY
Box 145, Middle River, Baltimore 20, Md.

NORTHWEST

80-D 2½ YD.
Shovel-Dragline
McCLUNG-LOGAN EQPT. CO.
Key Highway & McComas St.
Balto 30, MD. Tel. South 2560

150 CRANES

CRAWLERS — CRUISERS — TRUCKS

LORAINS - LINKBELT SPEEDERS - P & H
BYERS - NORTHWEST - BAY CITY
OSGOODS - MARIONS - BUCKEYES
INSLEYS - UNITS - HANSON
QUICKWAYS - OLIVERS

As Is.

½ Yard, $2,500.00 to $3,500.00
¾ Yard, $3,500.00 Up —

ELLIS-NOVACK CO.
1925 N. BUENA VISTA BURBANK, CALIF.
Phone Charleston 8-1641

Bridge Builders & Material Handlers

3 MANITOWOC CRANES

FOR RENT

Valley 3161

V. P. SERODINO, Inc.
7 W. North Bend Rd.
CINCINNATI 16, O.

FOR SALE or RENT
ALL LATE MODELS

1—N. W. Shovel, 2½ c.y. new Oct. 1946
1—N. W. Shovel, 1½ c.y.-new April 1946
1—P & H Dragline, 1½ c.y., new June 1948
1—N. W. Shovel, ¾ c.y. Diesel, Backhoe —40' Crane, Dragline, new Aug. 1948
1—Allis Chalmers Tractor Model HD19H, new May 1948
5—D W 10's—used 2500 hours
1—Caterpillar Auto Patrol #12—9K4626
1—Caterpillar D8 Angledozer #8R8933
1—Caterpillar D7 Bulldozer 4T5988

WILLIAMS CONSTRUCTION CO.
Box 145, Middle River, Baltimore 20, Md.
Phone: Essex 1310

FOR SALE
CONCRETE PLANT

2—3½ cu. yd. Jaeger-Lembo Mixers, one mounted on 1928 Mack Truck, other on 1943 GMC - 10 wheel truck.
1—x-66 cu yd. 3-compartment Butler Type Bin with weighing batcher.
1—Gasoline Driven Conveyor Elevator.

HENRY QUIST, INC.
31-18 38th AVENUE
LONG ISLAND CITY 1, N. Y.
STillwell 6-1572

FOR RENT
Lorain #55 Shovel-Crane

This is a (1) cubic yard machine in first class condition. Rental $550.00 per month.

THOMAS C. BROWN CO., INC.
307 Union St Schenectady 4-0814

FOR SALE
Steam Locomotive Crane

1—40 Ton, 60' Boom, 60" Mass standard & A.S.M.E. Boiler, Serial #3671. Mfd. by The McMyler Division of the Industrial Brownhoist Corp. Price $9200.00
Located near Boston, Mass.

HARLAND G. RICE, INC.
880 River Road Edgewater, N. J.

PIPE

Complete Dual Drum Paving Outfit for $25,000.00

Consisting of:

—Koehring 34-E Dual Drum Serial 19376
—RB Finegrader Serial 170
—Koehring Finisher Serial LF906
—Blaw-Knox Spreader Serial SA3097
—Jaeger Type H Finisher 42X017
—Cleveland Formgrader 084X41
—Model 25 Northwest Crane 6529
—250 Bbl. Butler Cement Bin
—4000 Ft. 9 x 8 Heltzel Form
—1 yard Owens Clamshell Bucket

BALLENGER PAVING CO.
GREENVILLE, S. C. PHONE 2-1845

LOWBED TRAILERS

Used 15 and 20 ton Rogers and 23 ton LaCrosse trailers.

C. C. KRESLER
1515 Lincoln Ave. Prospect Park, Pa.
Phone Ridley Park 1606 or 2817R

30" dredge pump with 2500 H.P. motor complete with all equipment for a plain suction dredge. Some new and balance 90% new.

H. P. GUION
303 W. 42nd St. New York 18, N. Y.

FOR SALE

IMMEDIATE DELIVERY
Cast Iron Water Pipe & Fittings
150 - lb. pressure—B&S A.W.W.A. STANDARD

NEW PIPE—4-inch 10-inch
6-inch 12-inch
8-inch
RECONDITIONED—12-inch
16-inch
20-inch
24-inch
VALVES—All sizes—New and Reconditioned.
FLANGED PIPE— 6-inch New
8-inch New
10-inch New
12-inch, Reconditioned
14-inch Reconditioned
C.I. WATER PIPE FITTINGS—All kinds and sizes.
BOIL PIPE—from 2 inch to 15 inch and Fittings. Immediate delivery

TAGCO, INC.
111 Front St. Hempstead, L. I., N. Y.
Hempstead 2-5635-8857

FOR SALE OR RENT

10" road forms, aggregate batcher bin, cement unloader & batcher bin. Loraine 40 with shovel and backhoe, 34E paver & other items for complete concrete paving outfit.

L. F. COLLIGNON
Davenport, Iowa

FOR SALE

Northwest #25 ¾ yd. crane, ser. #5530, in good condition, 35 ft. boom, fairleads, shovel front, gas engine $8,500.00

AMERICAN CONSTRUCTION CO.
RFD 4, Columbia, S. C. *Phone 2-1840*

FOR SALE
LINK BELT CRANE
1½ yd. (diesel)

65' boom clamshell digging bucket and fairleads. Wide cats. Completely overhauled.

NEDCAR EXCAVATING CO.
15 William St., Suite 1514, N. Y. 5, N. Y.
Hanover 2-8194

FOR SALE

One Lorain 75 shovel—1¼ yd. bucket. Serial #4039—$8500.00
Six Bulldog Mack Dump Trucks, AC & AX, with 20 yd. bodies, heil hoists & pneu. tires—each $600.00
Inspection at

MICHAEL KERO
619 Schuyler Ave. Lyndhurst, N. J.

FOR SALE

6000 Feet 2½" threaded and coupled black line pipe, excellent condition, twenty-foot random lengths. Fifty Cents per foot.

K. W. PORTER
Phone 207 Effingham, Ill.

FOR SALE
6 Transit Mix Trucks, Macks, Smith—2 yard Mixers

FRAZIER-DAVIS CONSTRUCTION CO.
1319 Macklind Ave. St. Louis, Missouri
or
1 East 43rd Street New York, N. Y.

SURPLUS STRIP EQUIPMENT, FOR SALE
One 80D, N.west Dragline, Murphy Diesel Power.
One Model 8, N.west Dragline, Murphy Diesel Power.
One Model 5 N.west shovel, Wisconsin gas Power
One Model 5, Heavy Duty Quarry type, N.west, Murphy Diesel Power.
All of this equipment in extra good working condition, and working now.

J. F. MULLIGAN COAL CO., INC.
Greenville, Kentucky

ADVERTISERS IN THIS ISSUE

American Hot Dip Galvanizers Assn., Inc. 27

Bay City Shovels 49
Bell Aircraft Corp. 3

Carnegie-Illinois Steel Corp. 24, 25
Cement Gun Co. 53

Dravo Corp. 50

Ford Motor Co. ..... 4th Cover

General Electric Co. ..... 2nd Cover
Great Lakes Steel Corp. Stran Steel Div. 1
Gunite Concrete & Construction Co. 50
Gurley, W. & L. E. 6

Harbor Plywood Corp. 49
Hayward Co. 50

Irvington Form & Tank Corp. 53

Koppers Co. 40

Lurie Engineering Co. 35

McGraw-Hill Book Co. 46
Monsanto Chemical Co. 37

Onan & Sons, Inc., D. W. 53

Raymond Concrete Pile Co. ..... 3rd Cover
Richmond Screw Anchor Co., Inc. 2
Riddell Corp., W. A. 45
Rust Oleum Corp. 43

Sprague & Henwood, Inc. 53

U. S. Rubber Co. 4, 8
U. S. Steel Corp. Subsidiaries 24, 25

Westinghouse Electric Co. 32, 33
Wheeler Insulated Wire Co., Inc. 34

G. R. RAMEL, Sales Manager — HOWARD OLSEN, Business Manager

Sales Representatives—Fred G. Hudson, L. H. Hunt and H. L. Keeler, 520 N. Michigan Ave., *Chicago* 11; Ralph Dorland, 68 Post Street, *San Francisco* 4; J. L. Ballard and W. G. Payne, 330 W. 42nd St., *New York* 18; A. B. Cozzens, 17th and Sansom Sts., *Philadelphia* 3; E. E. Duff, Jr., Hanna Bldg., *Cleveland* 15; B. F. Horn, Penobscot Bldg., *Detroit* 26; W. E. Donnell, Continental Bldg., *St. Louis* 8; Charles McReynolds, 621 So. Hope St., *Los Angeles* 14; Ralph Maultsby, Rhodes-Haverty Bldg., *Atlanta* 3. J. H. Allen, Empire Bank Bldg., *Dallas* 1. Other sales offices—238-39 Oliver Bldg., *Pittsburgh*; 1427 Statler Bldg., *Boston* 16; National Press Bldg., *Washington*; Aldwych House, *London, England.*

• FOR SALE •

HOLMES
ENDLESS ROPE
CAR HAUL MACHINE

WITH MOTOR, ELECTRICAL EQUIPMENT AND HAULAGE CABLE.
Complete with rope grips.

Direct Inquiries to:

RAIL TO WATER TRANSFER CORPORATION
101st & Calumet River,
Chicago 17, Illinois

FOR SALE OR RENT
ALL LATE MODELS

Lorain 79 Diesel 1½ cy Shovel
Northwest 4 Crane & 1 cy Backhoe
Northwest 25—¾ cy Backhoe & Crane
Lorain 30—½ cy Shovel, Backhoe & Crane
Insley Model "K" Truck Crane, ½ cy. 28 boom
Caterpillar D-7 hydraulic and cable bulldozers 3T Series
International TD-18 hydralic and cable bulldozers. Built 1948
International TD-14 hydr. bulldozer wide gauge
Caterpillar D-4 hydr. bulldozer w/Hyster winch
ALL CAREFULLY SHOP-REBUILT
NEW PAGE and HENDRIX dragline buckets—1 cy & 1½ cy Cap.

BENDIX MACHINERY CO., INC.
401 Broadway, New York 13, Tel: Canal 6-5693

CRANES and GRADERS

CRAWLERS

1 Northwest 80-D*	2½ yd.
1 Lima 802*	2 yd.
1 Link Belt Speeder	1½ yd.
1 Loraine*	¾ yd.
1 Koering*	¾ yd.
1 P. & H.*	¾ yd.
2 Osgoods	½ yd.
1 Insley*	½ yd.
1 Hanson*	½ yd.

TRUCK CRANES

2 Loraine 30*	½ yd.
2 Loraine 40*	¾ yd.
1 Bay City*	¾ yd.

GRADERS

3 Austin Westerns

TRACKSCAVATOR

1 Caterpiller D-4 W/ dozer blade

*Licensed for export

Most of this equipment has not been worked—the rest has had little use. Priced for quick sale. Location: Staten Island.

JOHN E. FORTE
Plaza Hotel, New York, N. Y. Plaza 9-3000

FOR SALE

1—Euclid Loader Model BV5, Serial 5BV34 New May 1947—used on one job, 400000 cy. Price—$15,000
7—Terra Cobra Scrapers, 150-HP Cummins engines. These machines new 1946-1947. Less than one year work. Latest Improvements including cabs, 12-c.f. air compressors and 24-V generators, drive chains enclosed. All have been overhauled and appearance like new. Will sell in lot or separately.
Price $16,000 each
All above subject to prior sale and F.O.B. St. Paul, Minn.
Terms can be arranged
Address
R. M. Knox—B. S. Crooks
424 Endicott Bldg. St. Paul, Minn.

FOR SALE BARGAINS
COMPRESSORS

1—Sullivan—160 1—Leroy—105
Both on steel wheels
AUSTIN TRENCHER—Model 36-12. With plenty extra parts. All ready to work.

TORSON CONSTRUCTION CO.
1890 Woodsweather Rd. K. C. MO.

Complete machinery for 16" dredge without power.

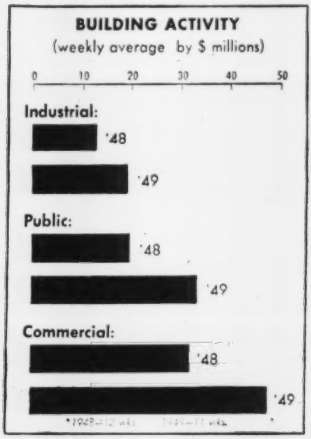
H. P. GUION
303 W. 42nd St. N. Y. C.

CRACK-PROOF WINDOWS

for equipment, spotlight lenses and transparent blast shields; cut to your special size and shape from *war salvage plastics* 3/16" thick and not over 12" x 17". Send paper pattern and we'll send estimate. Prompt shipment by mail on small orders. Low prices.

MARSTON MFG. CO., Marston, Mo. Tel. =471

CONSTRUCTION BUSINESS



Building 57% ahead of last year in mid-March

Heavy building is 57 percent higher in 1949 than the average for the comparable weeks of 1948.

Largest gain in any classification is the 72 percent increase in public building. Industrial construction is up 54 percent, and commercial 49 percent.

Top dollar volume of $47,000,000 per week in commercial building leads the three classes, and is well ahead of last year's $31,000,000. Public building on the other hand made the greatest gains, to $33,000,000 in 1949, compared with only $19,000,000 per week last year at this time. Industrial construction averages $19,000,000 over the past 11 weeks, as against $12,000,000 during the first 12 weeks of 1948.

At least 5.7 percent of this increase in dollar volume of contract awards, may be accounted for by rising building costs. Engineering News-Record's Building Cost Index averages 353 for 1949 to-date, compared with a 334 average for the first three months of 1948.

U. S. Steel reports on 1948

Shipments by the U. S. Steel Corp. in 1948 were a record 400 thousand tons above any other peacetime year. A total 29.3 million tons of steel ingots and castings were produced in a year of expansion and near capacity output.

Over the entire year, output averaged 93.8 percent of capacity, hitting a peak 99.4 percent in the fourth quarter. Expansion cost $275 million during the same period.

U. S. Steel's $937.9 million postwar expansion program was within $242 million of completion at the end of 1948. The overall cost of these additions is an estimated $128 million higher than was anticipated at the outset.

Dollar sales for 1948, another record, were 17 percent above 1947. Net profit was 2 percent higher as the result of this rise in sales receipts, but was only 5.2 percent of the sales dollar, compared with a profit of 6 percent on sales in 1947.

Construction wage gains

Construction workers employed by private contractors made wage gains of 10 percent during the year ending October 1948, according to the Bureau of Labor Statistics. Among 17 classifications of non-manufacturing industries, only three others made comparable gains—two classes of mining, and crude petroleum workers.

The average rise in wages for all 17 of these non-manufacturing industries was 7.6 percent during the year. Metallic and non-metallic mining wages increased 10.8 and 10.1 percent respectively, while crude petroleum workers' wages advanced 14.8 percent. The average gain for the other industries in the group was 6.5 percent—not far out of line with the BLS Consumer's price index rise of 6 percent during the period.

Prices cut on key materials

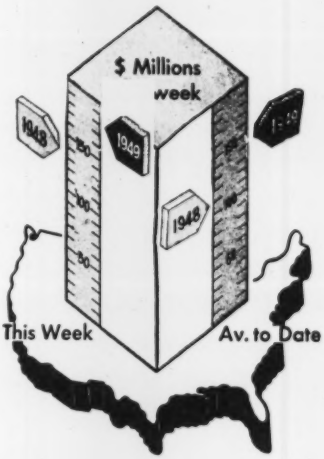
Prices were cut this week on the following nine important building materials: steel conduit down three to six percent for both galvanized and black ungalvanized types, with accompanying accessories such as fittings and couplings off up to 10 percent. Steel outlet boxes and armored electric cable fell three to 10 percent.

Thermopane glass prices are down five percent at the factory, while the price of corkboard wall insulation dropped 10 to 15 percent on all orders received after Feb. 25.

Lead prices (affecting cable, paint and plumbing) are down nine percent, while both steel and copper scrap also show declines. No. 1 copper wire scrap fell five percent, but scrap bought at the new low price cannot be expected to reach the market as refined metal for at least 60 to 90 days.

ENR INDEX NUMBERS

Index Base = 100		1913	1926
Construction Cost	Mar.'49	474.80	228.24
Building Cost	Mar.'49	352.47	190.54
Volume	Feb.'49	255	112



Activity This Week

As reported to ENR

in millions of dollars

Amount of contracts let

	Week of Mar. 24 1949	Cumulative 1949 (12 wks.)	Cumulative 1948 (13 wks.)	% Chge Av.Wk.
Federal	$58.0	$305.2	$289.5	+14
State & Mun.	57.6	572.3	479.9	+25
Total Public	$115.6	$877.5	$769.4	+23
Total Private	65.3	862.7	655.2	+43
U. S. Total	$180.9	$1,740.2	$1,424.6	+32

Contracts by type of work

	This Week	Cumulative 1949 (12 wks.)	Cumulative 1948 (13 wks.)	% Chge Av.Wk.
Waterworks	$4.4	$32.7	$41.4	−14
Sewerage	4.8	45.5	40.1	+23
Bridges	7.1	84.1	65.8	+38
Highways	15.2	113.3	178.2	−31
Earthwork, Waterways	56.2	160.3	144.4	+20
Buildings, Public	24.2	387.8	248.2	+69
Industrial	33.5	242.4	163.4	+60
Commercial	24.0	543.8	419.9	+40
Unclassified	11.5	130.3	123.2	+14

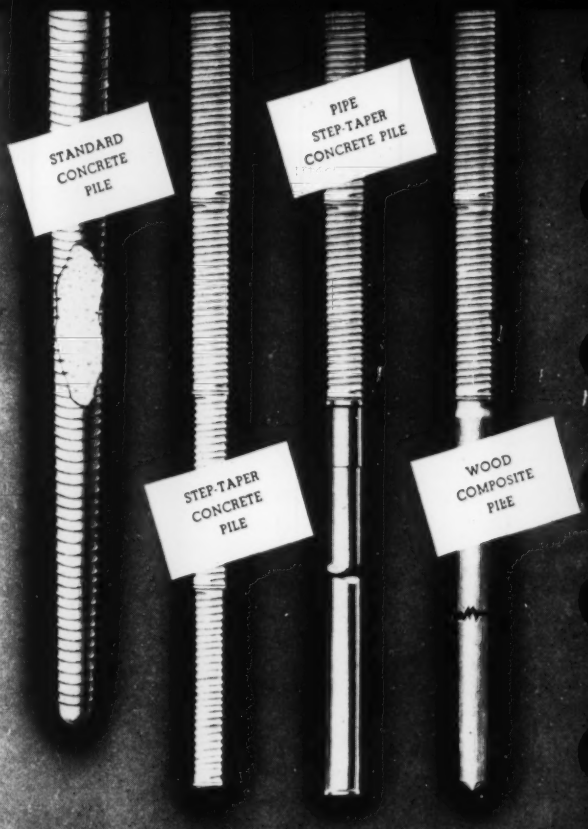
NOTE: Minimum size projects included are: Waterworks and waterway projects, $25,000; other public works, $50,000; industrial buildings, $68,000; other buildings, $250,000.

New capital for construction

	Cumulative 1949 (12 wks.)	Cumulative 1948 (13 wks.)	% Chge Av. Wk.
NON-FEDERAL	$1,141.3	$777.6	+59
Corporate Securities	572.8	422.9	+47
State and Municipal	568.5	354.7	+74
Total Capital	$1,141.3	$777.6	+59

OUTSTANDING ADVANTAGES OF RAYMOND CONCRETE PILES

Raymond's successful experience for more than a half century has thoroughly proved these six outstanding advantages of Raymond Concrete Piles. These benefits, plus Raymond's expert personnel and specialized equipment, result in sound, dependable substructures that meet every requirement. You are invited to consult our engineers for the facts.



1 **PERMANENCY**

Every Raymond Concrete Pile is a permanent achievement, accomplished by a series of carefully planned steps which assure a safe substructure support.

2 **GREATER CARRYING CAPACITY**

The use of correct equipment and know-how assures pointed driving to high compacting resistance, and the soil pressures developed during driving are fully maintained.

3 **UNIFORM BEARING CAPACITY**

Regardless of variations in subsoil conditions, Raymond piles can be driven to any depth required to obtain uniform bearing capacity for the whole foundation.

4 **ENGINEERED FOR THE JOB**

Raymond can provide the type of pile specifically adapted for your job.

5 **SAVING IN CONSTRUCTION COST**

Raymond's long experience on all kinds of jobs, the ready availability of equipment and the relatively shorter lengths of Raymond piles compared to some types, assure greatest economy in foundation costs.

6 **COMPLETE SATISFACTION**

By the satisfactory completion of over 14,000 contracts, involving more than 50 million feet of piling, Raymond has established a world-wide record of achievement.

RAYMOND CONCRETE PILE CO.

Branch Offices in Principal Cities of United States and Latin America

140 CEDAR STREET · NEW YORK 6, N. Y.

AROUND THE WORLD
52 YEARS FOUNDED 1899 OF PROGRESS

THE SCOPE OF RAYMOND'S ACTIVITIES

Includes every recognized type of pile foundation — concrete, composite, precast, steel, pipe and wood. Also caissons, underpinning, construction involving shore protection, shipbuilding facilities, harbor and river improvements and borings for soil investigation.

"FORD F-8 Big Jobs outperform all other trucks in their class!"

Roadside Report

FORD TRUCKS

JAMES L. DIGGS
KINGMAN
ARIZONA

"MY BONUS BUILT Ford F-8 Big Jobs, averaging 46,000 lbs. gross, are outperforming all other trucks in their class," reports Mr. James L. Diggs. "Gas mileage is 6 miles per gallon. The engine on one F-8 has never felt a wrench, except for changing one set of points and two fan belts. My run takes us over a mountain range and through the intense heat of the Colorado River Valley."

Mr. Diggs is one of many big-time haulers who give the Ford Big Jobs a great big hand. Owners report the 145-horsepower engine outperforms anything in its class. They offer plenty of proof that it outsaves many engines much smaller in size. Drivers report that the new Ford Million Dollar Cab can't be beat for comfort. Ford Big Jobs for '49 are Bonus Built . . . like the other 139-plus models in the full line of Ford Trucks. Bonus Built is the superstrong construction that contributes to long truck life. Life insurance experts prove Ford Trucks last longer.

FORD 1949 *Bonus Built* TRUCKS 1959

BUILT STRONGER TO LAST LONGER

USING LATEST REGISTRATION DATA ON 5,444,000 TRUCKS, LIFE INSURANCE EXPERTS PROVE FORD TRUCKS LAST LONGER!

ONLY THE FORD BIG JOB HAS ALL THESE FEATURES!

- ★ New 145-h.p. Ford V-8 engine for top performance.
- ★ Ford exclusive concentric dual-throat carburetor for more power, more economy.
- ★ New heavy duty 5-speed transmissions for operating flexibility.
- ★ Big Ford power-operated brakes for sure-footed stopping; rear 16-inch by 5-inch on the F-8.
- ★ Ford Super Quadrax 2-speed axle with vacuum shift for performance flexibility in Model F-8 (single speed axle also available); single-speed Quadrax Hypoid Axle in Model F-7.
- ★ Large diameter (10-inch) wheel bolt circle with 8 studs to allow for extra-strong hub construction.
- ★ Million Dollar Cab with Ford Exclusive Level Action suspension for greater driving comfort.
- ★ Nationwide service from over 6,400 Ford Dealers.
- ★ Ford Bonus Built construction for long truck life.

Gross Vehicle Weight Ratings: F-8 up to 21,500 lbs., F-7 up to 19,000 lbs. Gross combination ratings: F-8 up to 39,000 lbs., F-7 up to 35,000 lbs.